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NAS WHITING FIELD  
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CONSTRUCTION COMPLETION REPORT OF INTERIM REMOVAL ACTION AT SITE 15 NAS  
WHITING FIELD FL  
11/12/2001  
CH2M HILL



**CH2M HILL**

115 Perimeter Center Place, N.E.

Suite 700

Atlanta, GA

30346-1278

**Tel 770.604.9095**

**Fax 770.604.9282**

November 12, 2001

Ms. Linda Martin (Code ES318)  
Southern Division, Naval Facilities Engineering Command  
P.O. Box 190010  
North Charleston, SC 29419-9010

Subject: Contract No. N62467-98-D-0095  
Contract Task Order 0011 - Naval Air Station (NAS) Whiting Field - Milton, Florida  
Final Construction Completion Report - Interim Remedial Action at Site 15, Revision 01

Dear Ms. Martin:

CH2M HILL Constructors (CCI) is pleased to provide one (1) copy of Final Construction Completion Report - Interim Remedial Action at Site 15, NAS Whiting Field, Revision 01.

Please contact me (850.939.8300, ext. 17) if you have any questions or comments regarding this material.

Sincerely,

CH2M HILL

A handwritten signature in black ink, appearing to read "Amy Twitty", is written over the printed name.

Amy Twitty, P.G.  
Project Manager

cc: Mark Shull/NTR NAS Pensacola (CD only)  
Craig Benedikt/EPA (1 copy text only +1 CD)  
Jim Cason/FDEP (1 copy text only + 1 CD)  
Terry Hansen/TtNUS (CD only)  
Larry Smith/TtNUS (CD only)  
Jim Holland/NASWF (1 full hard copy for Library, 1 copy text only, 1 CD)  
Ron Stabler (1 copy text + 1 CD)  
Phillip Ottinger/TtNUS (1 full hard copy for AR, 1 copy text only, 1 CD)  
CCI Project File No. 151168

# **Construction Completion Report Interim Remedial Action at Site 15 – Southwest Landfill**

**Naval Air Station Whiting Field  
Milton, Florida**

**EPA ID No. FL217002344**

**Contract No. N62467-98-D-0995  
Contract Task Order 0011**

November 2001

**Prepared by:**



115 Perimeter Center Place, N.E.  
Suite 700  
Atlanta, GA 30346

Submitted to  
**Department of the Navy, Southern Division  
Naval Facilities Engineering Command  
2155 Eagle Drive  
North Charleston, South Carolina 29406**

**Construction Completion Report  
Interim Remedial Action at  
Site 15 – Southwest Landfill**

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Naval Facilities Engineering Command**

**Prepared by**



**115 Perimeter Center Place, N.E.  
Suite 700  
Atlanta, GA 30346**

**November 2001**

**Prepared/Approved By:**

  
\_\_\_\_\_  
Amy Twitty, P.G., Project Manager

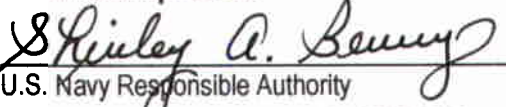
November 6, 2001  
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Date

**Approved By:**

  
\_\_\_\_\_  
Scott Newman, Program Manager

07 Nov 01  
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Date

**Client Acceptance:**

  
\_\_\_\_\_  
U.S. Navy Responsible Authority  
**SHIRLEY A. BERRY**  
Contracting Officer

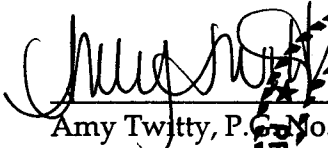
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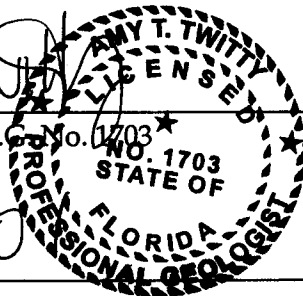


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This Construction Completion Report for Interim Remedial Action at Site 15 – Southwest Landfill Naval Air Station Whiting Field, Milton, Florida, was prepared under the direction of a Florida registered professional geologist.

  
Amy Twitty, P.G. No. 1703  
9-17-0  
Date





## **CERTIFICATION OF TECHNICAL DATA CONFORMITY (NOVEMBER 2001)**

CH2M HILL Constructors, Inc., hereby certifies, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. N62467-89-D-0995 are complete and accurate and comply with all requirements of this contract.

DATE: November 2001

NAME AND TITLE OF CERTIFYING OFFICIAL:

Amy Twitty, P.G.

Task Order Manager

NAME AND TITLE OF CERTIFYING OFFICIAL:

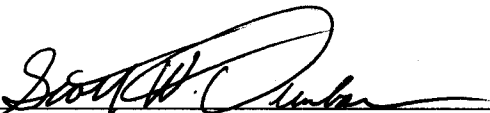
Amy Twitty, P.G.

Project Technical Lead

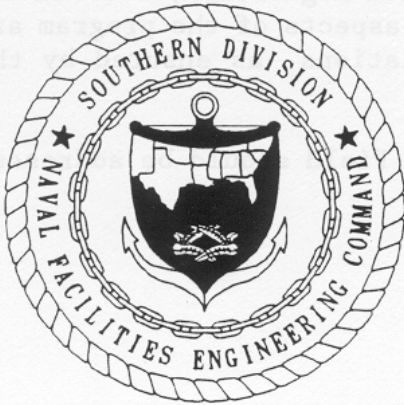


## Certificate of Completion

CH2M HILL Constructors, Inc., attests that, to the best of its knowledge and belief, the interim remedial action at Site 15, delivered under Contract No. N62467-98-D-0995, Naval Air Station Whiting Field, Milton, Florida, Contract Task Order (CTO) No. 0011, has been completed, inspected, and tested, and is in compliance with the contract.

  
\_\_\_\_\_  
Project QC Manager

9-18-01  
Date



## FORWARD

To meet its mission objectives, the U.S. Navy performs a variety of operations, some requiring the use, handling, storage, or disposal of hazardous materials. Through accidental spills and leaks and conventional methods of past disposal, hazardous materials may have entered the environment in ways unacceptable by today's standards. With growing knowledge of the long-term effects of hazardous materials on the environment, the Department of Defense (DOD) initiated various programs to investigate and remediate conditions related to suspected past releases of hazardous materials at their facilities.

One of these programs is the Installation Restoration (IR) Program. This program complies with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act, the Resource Conservation and Recovery Act and the Hazardous and Solid Waste Amendments of 1984. These acts establish the means to assess and clean up the hazardous waste site for both private-sector and Federal facilities. The CERCLA and SARA act form the basis for what is commonly known as the Superfund program.

Originally, the Navy's part of this program was called the Naval Assessment and Control of Installation Pollutants (NACIP) program. Early reports reflect the NACIP process and terminology. The Navy eventually adopted the program structure and terminology of the standard IR program.

The IR program is conducted in several stages as follows:

- Preliminary assessment (PA)
- Site inspection (SI) (Formerly, the PA and SI steps were called the initial Assessment study under the NACIP program)
- Remedial investigation and feasibility study
- Remedial design and remedial action

The Southern Division, Naval Facilities Engineering Command manages and the U.S. Environmental Protection Agency and the Florida Department of Environmental Protection (formerly Florida Department of Environmental Regulation) oversee the Navy environmental program at NAS Whiting Field. All aspects of the program are conducted in compliance with state and Federal Regulations, as ensured by the participation of these regulatory agencies.

Questions regarding the CERCLA program at NAS Whiting Field should be addressed to Ms. Linda Martin, Code ES318, at (843) 820-5574.

## Executive Summary

Site 15 is a 21-acre parcel located along the southwestern facility boundary of NAS Whiting Field near the South Air Field. Site 15 was an operational landfill from 1965 to 1979 and consisted of approximately seven trenches trending north-northeast, which covered 15 of the 21 acres. The landfill reportedly received the majority of waste generated at NAS Whiting Field which included general refuse, waste paints, oils, solvents, thinner, hydraulic fluid, bagged asbestos, and potentially polychlorinated biphenyl (PCB)-contaminated transformer oil (Envirodyne Engineers, Inc., 1985). It was estimated approximately 3,000 to 4,500 tons of waste were disposed of at the site annually. There is no evidence of a clay soil cap over the site; and because the soil at the site is predominantly silty sand, much of the onsite rainfall infiltrates the soil. The site topography trends to the southwest towards Clear Creek and is covered with young pine exceeding 20 feet in height (Harding Lawson Associates, 1999).

A surface soil assessment was conducted during the RI of Site 15. Phase IIA included the collection of five surface soil samples (15-SL-01 through 15-SL-05) and was conducted in 1992. During Phase IIB conducted in 1995, 25 additional surface soil samples were collected (15S00101 through 15S02501). Surface soil samples were collected from 0 to 12 inches bls.

Concentrations of total arsenic exceeded the residential and industrial standards for the U.S. Environmental Protection Agency (USEPA) Region III Risk-Based Concentrations (0.43 and 3.8 mg/kg, respectively) and the residential and industrial standards for soil cleanup goals for Florida of 0.8 and 4.62 mg/kg, respectively. The Florida Department of Environmental Protection (FDEP) has approved a site-specific industrial soil cleanup goal for arsenic of 4.62 mg/kg at Site 15 at NAS Whiting Field. Phase IIB surface soil sample 15S01501 exhibited an arsenic concentration of 6.8 mg/kg (Harding Lawson Associates, 1999).

Vanadium concentrations in surface soil exceeded the Florida residential Soil Cleanup Target Level (SCTL) in six locations but did not exceed the industrial SCTL.

Phenol and 4-Methylphenol were detected in subsurface soil at concentrations above the Florida SCTL for leaching. Aroclor-1242 was detected in one subsurface sample (collected from 10 to 11 feet bls) and exceeded the Florida residential and industrial SCTL for direct exposure, but was below the FDEP leachability criteria and the USEPA Region III industrial-use RBC.

The Human Health Risk Assessment conducted by Harding Lawson Associates identified three inorganic analytes, arsenic, iron, and vanadium, as Human Health Chemicals of Potential Concern (HHCOPCs) in surface soil at Site 15. Aroclor-1242 was identified as an HHCOPC for subsurface soil.

The Human Health Risk Assessment further stated the HHCOPCs detected in surface soil do not pose unacceptable carcinogenic risks to the receptors evaluated based on evaluation of the samples using USEPA guidelines and target risk range. Therefore, surface soil concentrations of iron and vanadium do not pose a human health or ecological threat at Site 15.

The total Excess Lifetime Cancer Risk, associated with exposure to soil by a hypothetical future resident, exceeds Florida's target risk level of concern due to arsenic.

The results of the Ecological Risk Assessment conducted by Harding Lawson Associates indicate risks are not predicted for ecological receptor populations at Site 15.

Based on this information, the Navy elected to conduct additional sampling activities and possible removal actions due to arsenic concentration in the surface soil at the former Southwest Landfill.

As outlined in the project scope, CCI conducted the following activities at NAS Whiting Field, Site 15:

- Sampled, delineated, and removed arsenic impacted soil from the RI sample 15S01501 area in exceedance of the site specified industrial criteria level of 4.62 mg/kg

- Transported and disposed of arsenic impacted soil from the site to an approved and permitted offsite facility
- Conducted QC activities during construction and conducted Quality Assurance reporting (provided in this report) to document the IRA efforts.

On June 13, 2000, CCI collected 20 surface soil samples for source delineation of arsenic in the location of sample 15SO1501. A 75-foot by 75-foot sampling grid was established around the approximate location of the sample (as identified by the land surveyor). The samples were collected on 25-foot centers (16 samples) and four additional samples were collected from an approximately 10-foot radius of the original sample. Initially, only the four samples immediately surrounding the original sample locations were analyzed for arsenic. The decision to continue analyzing samples for arsenic was based on the analytical results of these four initial samples. Due to the results from the initial round of sampling, a total of four surface soil samples were analyzed for source delineation of arsenic in the vicinity of sample 15SO1501.

Of the four initial samples collected and analyzed for arsenic in the vicinity of RI Phase IIA surface soil sample 15SO1501, none exhibited an arsenic concentration above the associated FDEP-approved site-specific soil cleanup goal of 4.62 mg/kg. Therefore, further delineation was unnecessary. As a result, a decision was made by the Navy to remove the arsenic impacted soil in the immediate vicinity of RI sample 15SO1501. Arsenic impacted soil removal activities are discussed in Section 5.0 Remedial Action Activities.

A 10-foot by 10-foot by 2-foot deep volume of soil was identified for excavation in the vicinity of RI Phase IIB surface soil sample 15SO1501. CCI mobilized personnel and resources to perform and complete soil excavation activities on July 21, 2000. Approximately 7.4 cubic yards (bank) of soil was excavated from the designated area. NAS Whiting Field directed CCI to excavate around and preserve a pine tree (greater than 6 inches in diameter) in the center of the excavation area. Extensive previous site characterization investigations and surface soil sampling activities at Site 15 had safely determined the constituent of concern (COC) to be inorganic and therefore no field screening was conducted while the arsenic impacted soil was excavated.

Once excavated, soil was placed directly into a single roll-off box. The roll-off box was covered with a canvas tarp to prevent contact with rainfall (run-on control). The roll-off box was labeled and transferred to a designated onsite staging area until waste profile acceptance was obtained and transportation and disposal activities performed.

One roll-off box was partially filled during the excavation activities at the site. NAS Whiting Field had suggested and encouraged disposal of the excavated soil at the local municipal landfill, Santa Rosa County Landfill, since the soil was characterized as non-hazardous waste. The analytical data from the RI Phase IIB surface soil sample 15SO1501 and the CCI June 2000 sampling event were submitted as part of the application and request made to Santa Rosa County Landfill for disposal made by CCI and NAS Whiting Field. On August 11, 2000, the soil was transported by Southern Waste Services to Santa Rosa County Landfill, Milton, Florida for final disposal. No liquid waste was generated during the IRA.

CCI performed confirmatory sampling and analysis to verify the media exceeding the site specific remediation goals had been removed. Confirmation samples consisted of one grab sample and one duplicate sample collected from the bottom of the excavation. No sidewall samples were collected since the four surrounding grid samples did not exhibit elevated arsenic concentrations. Analytical results were compared to the appropriate arsenic remediation goal of 4.62 mg/kg.

Once the excavation was completed, a confirmation sample was collected. The sample was collected from the center of the bottom of the excavation. The sample was split as a duplicate. The samples were sent to a Navy-approved laboratory (Severn Trent Laboratory, Pensacola, Florida) and analyzed using USEPA analytical Method SW-846 6010. Once the analysis was completed, the data were validated using industry standards and qualified. The results of the confirmation samples were 1.4 mg/kg for the original and 1.3 mg/kg for the duplicate. Since the samples were collected below the 2-foot excavation, the results were compared to the arsenic SCTL for Leachability Based on Groundwater (FAC Chapter 62-777) of 29 mg/kg. The results were below the SCTL.

Upon receipt of excavation confirmation sample analysis, the excavation area was restored. Clean backfill soil, from a tested and approved offsite borrow source, was placed in the excavation in 1-foot lifts. In

order to prevent root damage to the preserved lone pine tree in the center of the excavation area, the soil was not machine compacted. The excavation area was slightly over-filled and the center crowned to compensate for any potential future settlement. No fertilizer or vegetative cover was required or installed because the area had been previously designated a natural area and re-seeding was unnecessary.

- All sampling locations associated with the IRA at Site 15 were surveyed by CH2M HILL personnel who are licensed professional land surveyors in the State of Florida. Horizontal control surveying (X, Y-coordinates) and vertical control surveying (Z-coordinate) were performed at the ground surface of each sampling location. The survey coordinates were used to locate the sampling points on the maps.
- Based on the results of the IRA and the final acceptance of the site restoration during site inspection, CCI recommends no further IRA activities at Site 15 in the vicinity of RI sample 15SO1501.
- Land Use Controls will be implemented at Site 15 to ensure humans are not exposed to Aroclor-1242 at a depth of 10 to 11 feet bls in the vicinity of RI sample 15SS0804.



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## Glossary

bls	below land surface
CCI	CH2M HILL Constructors, Inc.
CD	compact disk
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CLP	Contract Laboratory Program
COC	constituent of concern
CompQAP	Comprehensive Quality Assurance Plan
CTO	Contract Task Order
DQE	Data Quality Evaluation
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
HHCOPC	Human Health Chemical of Potential Concern
IRA	interim remedial action
mg/kg	milligrams per kilogram
NAS	Naval Air Station
NAVFAC	Naval Facilities Engineering Command
PCB	polychlorinated biphenyl
PPE	personal protective equipment
QC	Quality Control
RBCs	Risk-based Concentrations
RI	Remedial Investigation
SCTL	Soil Cleanup Target Level
TAL	target analyte list
T&D	transportation and disposal
USEPA	U.S. Environmental Protection Agency
VOC	volatile organic compound

## 1.0– Introduction

CH2MHILL Constructors, Inc. (CCI) was contracted by the Department of the Navy, Southern Division, Naval Facilities Engineering Command (NAVFAC), to prepare this Construction Completion Report for work performed by CCI at Naval Air Station (NAS) Whiting Field in Milton, Florida. This work was performed under Contract No. N62467-98-D-0995, Contract Task Order (CTO) No. 0011 and in accordance with the management approach outlined in the Contract Management Plan (CCI, July 1998), and the Final Basewide Work Plan (CCI, November 1999).

The objective of this report is to provide documentation of the additional soil sampling and interim remedial action (IRA) activities associated with the removal of arsenic impacted soil associated with the former landfill. [Figure 1-1](#) presents the site location map.

### 1.1 – Project Scope

The Scope of Work for the project included the following tasks:

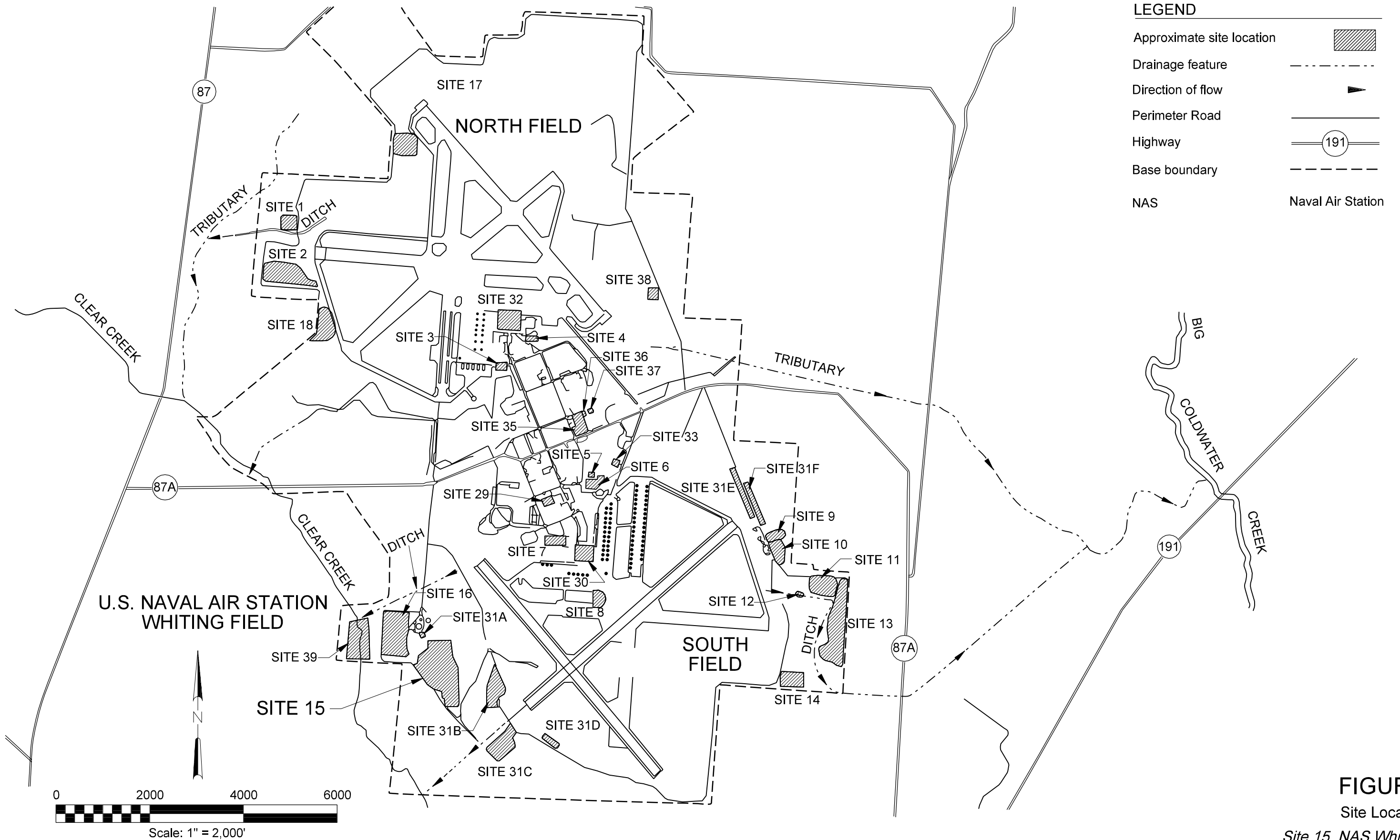
- Perform surface soil sampling at Site 15 to delineate the extent of arsenic in surface soil in the vicinity of Remedial Investigation (RI) sample 15S01501 (CCI, July 2000)
- Collect 20 surface soil samples: 16 samples from 1 foot below land surface (bls) using stainless steel hand augers from a 75-foot by 75-foot sampling grid, on 25-foot centers; and an additional four samples from an approximate 10-foot radius from the original sample location (15S01501)
- Develop a Site 15 IRA Work Plan (CCI, 2000), describing activities related to the excavation of a specified area and volume of arsenic impacted soil above the site specific industrial cleanup criteria of 4.62 milligrams per kilogram (mg/kg) for Site 15, confirmation sampling, and site restoration.

### 1.2– Site History

Site 15 is a 21-acre parcel located along the southwestern facility boundary of NAS Whiting Field near the South Air Field ([Figure 1-1](#)). Site 15 was an operational landfill from 1965 to 1979 and consisted of approximately seven trenches trending north-northeast, which covered 15 of the 21 acres. The landfill reportedly received the majority of waste generated at NAS Whiting Field which included general refuse, waste paints, oils, solvents, thinner, hydraulic fluid, bagged asbestos, and potentially polychlorinated biphenyl (PCB)-contaminated transformer oil (Envirodyne Engineers, Inc., 1985). It was estimated approximately 3,000 to 4,500 tons of waste were disposed of at the site annually. There is no evidence of a clay soil cap over the site; and because the soil at the site is predominantly silty sand, much of the onsite rainfall infiltrates the soil. The site topography trends to the southwest towards Clear Creek and is covered with young pine exceeding 20 feet in height (Harding Lawson Associates, 1999).

A surface soil assessment was conducted during the RI of Site 15. Phase IIA included the collection of five surface soil samples (15-SL-01 through 15-SL-05) and was conducted in 1992. During Phase IIB conducted in 1995, 25 additional surface soil samples were collected (15S00101 through 15S02501). Surface soil samples were collected from 0 to 12 inches below land surface (bls). [Figure 1-2](#) shows the sample locations for both investigations.

Concentrations of total arsenic exceeded the residential and industrial standards for the U.S. Environmental Protection Agency (USEPA) Region III Risk-Based Concentrations (RBCs) (0.43 and 3.8 mg/kg, respectively) and the residential and industrial standards for soil cleanup goals for Florida of 0.8 and 4.62 mg/kg, respectively. The Florida Department of Environmental Protection (FDEP) has approved a site-specific industrial soil cleanup goal for arsenic of 4.62 mg/kg at Site 15 at NAS Whiting Field. Phase IIB surface soil sample 15S01501 exhibited an arsenic concentration of 6.8 mg/kg (Harding Lawson Associates, 1999).

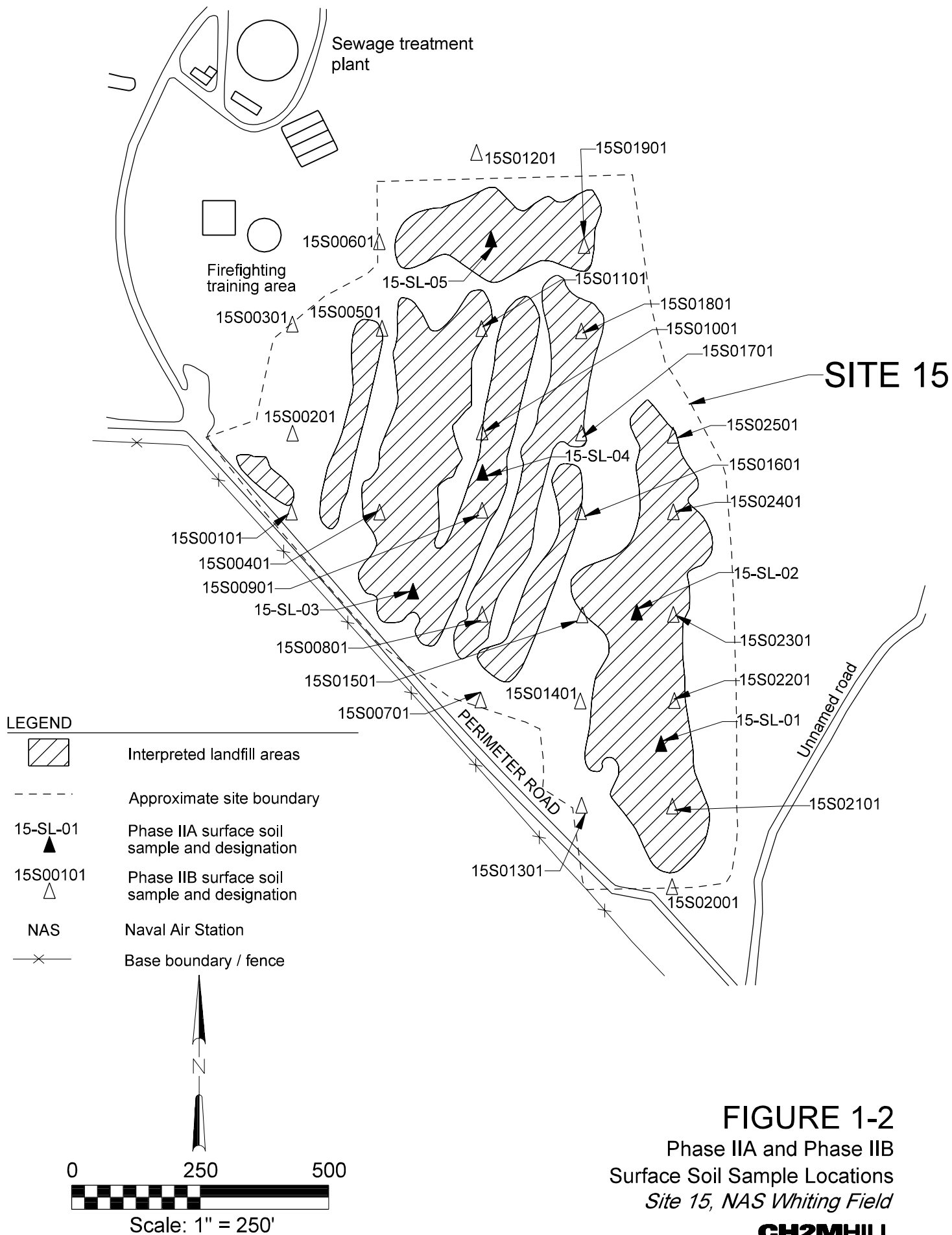


**FIGURE 1-1**

Site Location Map

Site 15, NAS Whiting Field

**CH2MHILL**



**FIGURE 1-2**  
Phase IIA and Phase IIB  
Surface Soil Sample Locations  
Site 15, NAS Whiting Field

**CH2MHILL**

Vanadium concentrations in surface soil exceeded the Florida residential Soil Cleanup Target Level (SCTL) in six locations but did not exceed the industrial SCTL.

Phenol and 4-Methylphenol were detected in subsurface soil at concentrations above the Florida SCTL for leaching. Aroclor-1242 was detected in one subsurface sample (collected from 10-11 feet bls) and exceeded the Florida residential and industrial SCTL for direct exposure but was below the FDEP leachability criteria and the USEPA Region III industrial-use RBC.

The Human Health Risk Assessment conducted by Harding Lawson Associates identified three inorganic analytes, arsenic, iron and vanadium, as Human Health Chemicals of Potential Concern (HHCOPCs) in surface soil at Site 15. . Aroclor-1242 was identified as an HHCOPC for subsurface soil.

The Human Health Risk Assessment further stated the HHCOPCs detected in surface soil do not pose unacceptable carcinogenic risks to the receptors evaluated based on evaluation of the samples using USEPA guidelines and target risk range. Therefore, surface soil concentrations of iron and vanadium do not pose a human health or ecological threat at Site 15.

The total Excess Lifetime Cancer Risk, associated with exposure to soil by a hypothetical future resident, exceeds Florida's target risk level of concern due to arsenic.

The results of the Ecological Risk Assessment conducted by Harding Lawson Associates indicate risks are not predicted for ecological receptor populations at Site 15.

Based on this information, the Navy elected to conduct additional sampling activities and possible removal actions due to arsenic concentration in the surface soil at the former Southwest Landfill.

### **1.3– Regulatory Framework**

The additional sampling and interim action were performed based on the results of the RI under the guidelines set forth by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). During the review of the RI, it was noted the arsenic contamination in surface soil was not fully delineated. Once the arsenic was delineated and removed, the threat of direct exposure would no longer exist. This is consistent with the final remedy of the site detailed in the Feasibility Study and subsequent Record of Decision currently being prepared by Harding Lawson Associates.

### **1.4– Remedial Action Objectives**

Based on previous investigations, the remedial action objectives for the project were defined by the Navy as follows:

- Collect additional samples in the vicinity of former sample 15S01501 and analyze for total arsenic
- Determine horizontal extent of arsenic in the surface soil in exceedance of 4.62 mg/kg
- Remove surface soil at Site 15 exceeding 4.62 mg/kg
- Determine whether soil in the bottom of the excavation greater than 2 feet bls exceeds the arsenic SCTL for Leachability Based on Groundwater (Florida Administrative Code [FAC] Chapter 62-777) of 29 mg/kg
- Dispose of the excavated soils and any generated aqueous waste in accordance with applicable rules and regulations
- Perform site restoration activities

## **2.0 Additional Soil Sampling and Analysis**

The following sections describe sampling and analysis activities related to arsenic contamination.

### **2.1 – Soil Sampling**

On June 13, 2000, CCI collected 20 surface soil samples for source delineation of arsenic in the location of sample 15SO1501. A 75-foot by 75-foot sampling grid was established around the approximate location of the sample (as identified by the land surveyor). The samples were collected on 25-foot centers (16 samples) and four additional samples were collected from an approximately 10-foot radius of the original sample. Initially, only the four samples immediately surrounding the original sample locations were analyzed for arsenic. The decision to continue analyzing samples for arsenic was based on the analytical results of these four initial samples. Due to the results from the initial round of sampling, a total of four surface soil samples were analyzed for source delineation of arsenic in the vicinity of sample 15SO1501 ([Figure 2-1](#)).

All samples were collected from the land surface to approximately 1 foot bls using decontaminated stainless steel hand augers. Soil was placed into stainless steel bowls, thoroughly mixed using stainless steel spoons, and placed in glass jars. Soil sample information was recorded in a bound logbook by CCI personnel. All sampling was conducted in accordance with CCI's FDEP-approved Field Comprehensive Quality Assurance Plan (CompQAP).

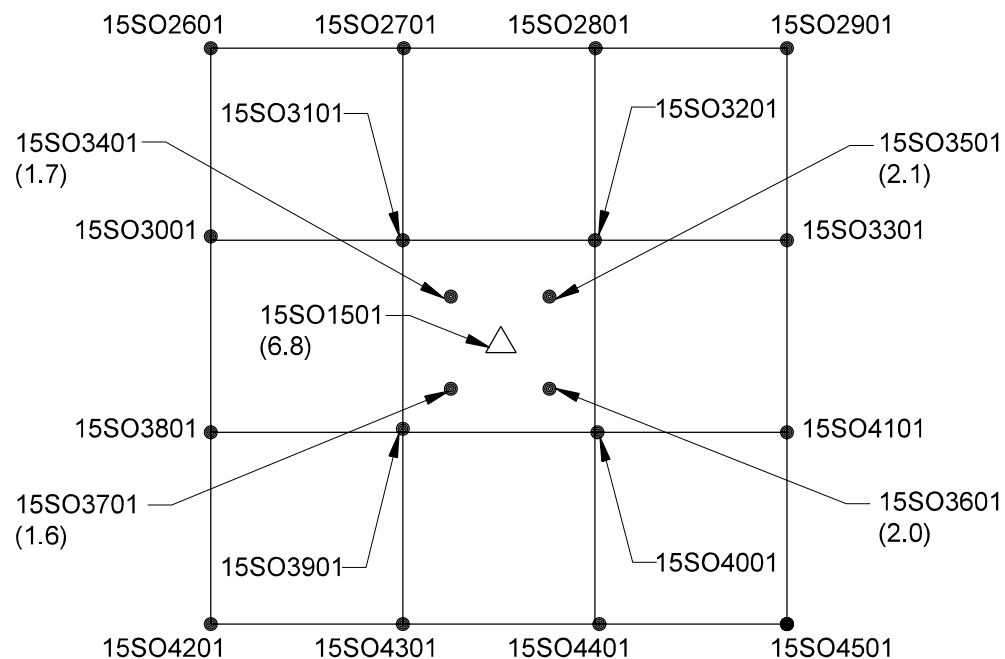
All samples were analyzed by Severn Trent Laboratories in Pensacola, Florida (a Navy-approved laboratory) on a 48-hour turnaround time. Samples were analyzed for total arsenic only using USEPA SW 846 Method 6010. Level III, Definitive, Data Quality Objectives were used for analytical QC and reporting purposes.

### **2.2 – Analytical Results**

Of the four initial samples collected and analyzed for arsenic in the vicinity of RI Phase IIA surface soil sample 15SO1501, none exhibited an arsenic concentration above the associated FDEP-approved site-specific soil cleanup goal of 4.62 mg/kg ([Figure 2-1](#)). Therefore, further delineation was unnecessary. As a result, a decision was made by the Navy to remove the arsenic impacted soil in the immediate vicinity of RI sample 15SO1501. Arsenic impacted soil removal activities are discussed in Section 5.0 Remedial Action Activities.

The Data Quality Evaluation (DQE) performed for the analytical results is presented in [Appendix A](#). Survey coordinates for the soil sample locations are presented in [Appendix B](#).





## LEGEND

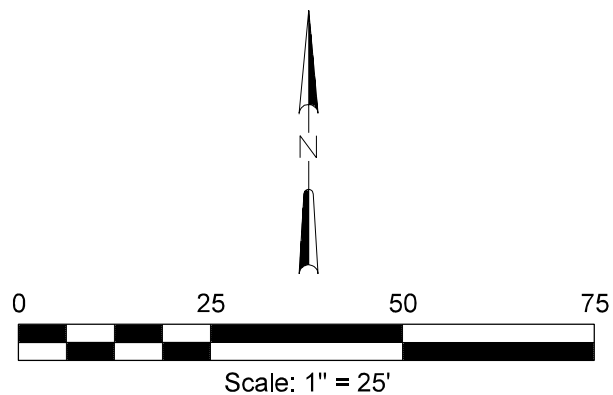
Phase IIB surface soil sample and designation 15SO1501

Additional grid surface soil sample and designation 15SO2601

Arsenic Analytical Result (mg/kg) (6.8)

## NOTES:

1. Soil cleanup target level for arsenic is 4.62 mg/kg.



**FIGURE 2-1**  
Grid Layout and Arsenic Analytical Results  
Surrounding Phase IIB Soil Sample 15SO1501  
*Site 15, NAS Whiting Field*

**CH2M HILL**

### 3.0– Significant Events

The following sections describe the major events for the Site 15. A summary of these events is presented in [Table 3-1](#).

#### 3.1– Chronology of Events

The events for the IRA activities at the site are listed chronologically in Table 3-1. Specific details describing the construction activities are found in Section 5.0 Remedial Action Activities of this report.

**TABLE 3-1**  
Construction Sequence Summary

Event	Date
Additional Delineation Sampling events	June 13, 2000
Submit IRA Work Plan for Excavation, Sampling, T&D, and Restoration	July 19, 2000
CCI IRA Work Plan Approval	July 20, 2000
Site 15 Excavation	July 21, 2000
Excavation Confirmation Sampling	July 24, 2000
Excavated Soil Disposal Profile Acceptance (Santa Rosa County Landfill)	July 27, 2000
Excavation Confirmation Sample Data received	August 9, 2000
Transportation & Disposal of Excavated Soil	August 11, 2000
Site 15 Site Restoration (backfill) Operations	September 11, 2000

T&D = transportation and disposal

#### 3.2– Problems Encountered

No significant problems were encountered during the execution of the Site 15 scope of work. The work was conducted concurrently with other CTO activities at NAS Whiting Field.

## **4.0– Performance Standards and Construction Quality Control**

The following quality controls were implemented during the course of the project:

- Field observation
- Excavation control
- Confirmation sampling and analysis
- Surveying
- Backfill testing (clean) and site restoration
- Wastestream sampling and analysis
- Waste approval packages
- Transportation and disposal
- Equipment decontamination

### **4.1 – Field Observation**

CCI provided oversight of all field operations throughout the course of the project. CCI field oversight staff included a project manager, site superintendent (including health and safety oversight) and a project quality control (QC) manager. Detailed records of subcontractor activities were maintained in field logbooks and site field records.

### **4.2– Confirmatory Sampling and Analysis**

CCI performed confirmatory sampling and analysis to verify the media exceeding the site specific remediation goals had been removed. Confirmation samples consisted of one grab sample and one duplicate sample collected from the bottom of the excavation. No sidewall samples were collected since the four surrounding grid samples did not exhibit elevated arsenic concentrations. Analytical results were compared to the appropriate arsenic remediation goal of 4.62 mg/kg.

### **4.3– Surveying**

All sampling locations associated with the IRA at Site 15 were surveyed by CH2M HILL personnel who are licensed professional land surveyors in the State of Florida. Horizontal control surveying (X, Y-coordinates) and vertical control surveying (Z-coordinate) were performed at the ground surface of each sampling location. The survey coordinates were used to locate the sampling points on the maps. Survey data are included in [Appendix B](#).

### **4.4– Backfill Testing and Site Restoration**

A nearby borrow pit was sampled on August 23, 2000, and analyzed for a full suite of parameters to determine if it was suitable for backfill. Analyses included volatile organic compounds (SW 846 Method 8260), semi-volatile organic compounds (USEPA SW 846 Method 8270), metals (USEPA SW 846 Methods 6010 and 7421), petroleum hydrocarbons (Florida Residual Petroleum Organic methodology) PCBs (USEPA SW 846 Method 8082), pesticides and herbicides (USEPA SW 846 Methods 8081 and 8151). Backfill soil analytical results were compared to the SCTLs for direct exposure, residential listed in Chapter 62-777 (FAC). Arsenic results were compared to the site-specific cleanup level of 4.62 mg/kg. Once the soil was deemed useable, the excavation was backfilled and leveled to grade. Since the excavation is in the middle of the woods, compaction tests were not performed.

## **4.5– Wastestream Sampling and Analysis Waste Approval**

### **4.5.1 – Excavated Soil**

Excavated arsenic impacted soil from Site 15 was accepted by the Santa Rosa County Landfill, Milton, Florida, as non-hazardous waste based on generator knowledge and certification provided by NAS Whiting Field. Investigation derived data was also provided to Santa Rosa County Landfill as part of the request for disposal approval. Manifests are included in [Appendix C](#).

### **4.5.2 – Contact and Decontamination Water**

Excavation and contact water were not generated or collected during the course of IRA activities. Dry decontamination procedures were used to clean major equipment.

## **4.6– Equipment Decontamination**

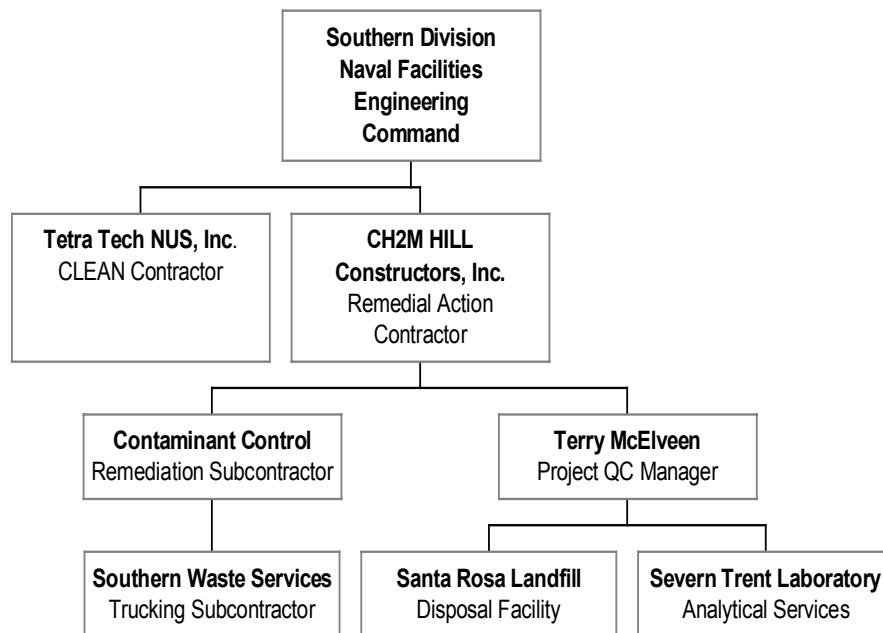
All equipment was decontaminated prior to removal from the site. All waste generated by the activities was containerized and removed from the site and disposed. Upon completion of decontamination, the site QC staff inspected all equipment prior to demobilization.

## 5.0 – Remedial Action Activities

### 5.1 – Remedial Action Participants

The remedial action participants and their respective responsibilities for the project. Construction activities are shown below in [Figure 5-1](#).

**FIGURE 5-1**  
Organization of Remedial Action Participants



### 5.2 – Summary of Remedial Action Activities

The following sections describe the interim remedial activities, confirmation sampling, waste characterization and disposal, and site restoration activities associated with Site 15 – Southwest Landfill, NAS Whiting Field, Milton, Florida.

#### 5.2.1 – Excavation Activities

A 10-foot by 10-foot by 2-foot deep volume of soil was identified for excavation in the vicinity of RI Phase IIB surface soil sample 15SO1501. CCI mobilized personnel and resources to perform and complete soil excavation activities on July 21, 2000. Approximately 7.4 cubic yards (bank) of soil was excavated from the designated area. NAS Whiting Field directed CCI to excavate around and preserve a pine tree (greater than 6 inches in diameter) in the center of the excavation area. Extensive previous site characterization investigations and surface soil sampling activities at Site 15 had safely determined the constituent of concern (COC) to be inorganic and therefore no field screening was conducted while the arsenic impacted soil was excavated.

#### 5.2.2 – Excavated Media Management

Once excavated, soil was placed directly into a single roll-off box. The roll-off box was covered with a canvas tarp to prevent contact with rainfall (run-on control). The roll-off box was labeled and transferred to

a designated onsite staging area until waste profile acceptance was obtained and transportation and disposal activities performed.

### **5.2.3– Waste Characterization and Disposal**

One roll-off box was partially filled during the excavation activities at the site. NAS Whiting Field had suggested and encouraged disposal of the excavated soil at the local municipal landfill, Santa Rosa County Landfill, since the soil was characterized as non-hazardous waste. The analytical data from the RI Phase IIB surface soil sample 15SO1501 and the CCI June 2000 sampling event were submitted as part of the application and request made to Santa Rosa County Landfill for disposal made by CCI and NAS Whiting Field. On August 11, 2000, the soil was transported by Southern Waste Services to Santa Rosa County Landfill, Milton, Florida for final disposal. No liquid waste was generated during the IRA. A copy of the Non-Hazardous Waste Manifest for the arsenic impacted soil and the weigh ticket is located in [Appendix C](#).

### **5.3– Confirmation Sampling**

Once the excavation was completed, a confirmation sample was collected. The sample was collected from the center of the bottom of the excavation. The sample was split as a duplicate. The samples were sent to a Navy-approved laboratory (Severn Trent Laboratory, Pensacola, Florida) and analyzed for arsenic using USEPA Method SW-846 6010. Once the analysis was completed, the data were validated using industry standards and qualified. The results of the confirmation samples were 1.4 mg/kg for the original and 1.3 mg/kg for the duplicate. Since the samples were collected below the 2-foot excavation, the results were compared to the arsenic SCTL for Leachability Based on Groundwater (FAC Chapter 62-777) of 29 mg/kg. The results were below the SCTL. The analytical data are presented in [Appendix D](#). The Data Evaluation Report is included in [Appendix A](#).

### **5.4– Site Restoration**

Upon receipt of excavation confirmation sample analysis, the excavation area was restored. Clean backfill soil, from a tested and approved offsite borrow source, was placed in the excavation in 1-foot lifts. In order to prevent root damage to the preserved lone pine tree in the center of the excavation area, the soil was not machine compacted. The excavation area was slightly over-filled and the center crowned to compensate for any potential future settlement. No fertilizer or vegetative cover was required or installed because the area had been previously designated a natural area and re-seeding was unnecessary.

## **6.0– Final Inspection and Site Status Summary**

On October 13, 2000, Mr. Jim Holland, NAS Whiting Field Public Works Environmental Manager, inspected the site for compliance and acceptance. The participants and results of the inspection are presented below.

### **6.1 – Participants**

The following individuals participated in the final inspection:

- NAS Whiting Field Public Works Environmental Manager
- CCI Site Manager
- CCI Project QC Manager

### **6.2 – Deficiencies**

During the performance of the project, no items were noted for correction.

### **6.3 – Resolution of Deficiencies**

None required.

### **6.4 – Site Status Summary**

As outlined in the project scope, CCI conducted the following activities at NAS Whiting Field, Site 15:

- Sampled, delineated, and removed arsenic impacted soil from the RI sample 15SO1501 area in exceedance of the site specified industrial criteria level of 4.62 mg/kg
- Transported and disposed of arsenic impacted soil from the site to an approved and permitted offsite facility
- Conducted QC activities during construction and conducted Quality Assurance reporting (provided in this report) to document the IRA efforts

Based on the results of the IRA and the final acceptance of the site restoration during site inspection, CCI recommends no further IRA activities at Site 15 in the vicinity of RI sample 15SO1501.

## 7.0– Conclusions

A summary of the results of the RI conducted by Harding Lawson Associates and the interim remedial action conducted by CCI at Site 15 are presented below:

- In a letter dated April 27, 1998, FDEP approved a site-specific industrial soil cleanup goal for arsenic of 4.62 mg/kg at various sites including Site 15 at NAS Whiting Field.
- During the RI, Phase IIB surface soil sample 15S01501 exhibited an arsenic concentration of 6.8 mg/kg, above the USEPA Region III industrial RBC, the FDEP industrial SCTL and the site-specific cleanup goal of 4.62 mg/kg.
- During the RI, vanadium concentrations in surface soil exceeded the Florida residential SCTL in six locations but did not exceed the industrial SCTL.
- During the RI, phenol and 4-Methylphenol were detected at concentrations above the Florida SCTL for leaching. Leachability issues will be addressed under the basewide groundwater investigation (Site 40).
- During the RI, Aroclor-1242 was detected in one subsurface sample (collected from 10 to 11 feet bls) and exceeded the Florida residential and industrial SCTL for direct exposure but was below the FDEP leachability criteria and the USEPA Region III industrial-use RBC.
- The Human Health Risk Assessment conducted as part of the RI by Harding Lawson Associates identified three inorganic analytes, arsenic, iron and vanadium, as Human Health Chemicals of Potential Concern (HHCOPCs) in surface soil at Site 15. Aroclor-1242 was identified as an HHCOPC for subsurface soil.
- The Human Health Risk Assessment portion of the RI further stated the HHCOPCs detected in surface soil do not pose unacceptable carcinogenic risks to the receptors evaluated based on evaluation of the samples using USEPA guidelines and target risk range. Therefore, surface soil concentrations of iron and vanadium do not pose a human health or ecological threat at Site 15.
- The total Excess Lifetime Cancer Risk, associated with exposure to soil by a hypothetical future resident, exceeds Florida's target risk level of concern due to arsenic.
- The results of the Ecological Risk Assessment conducted as part of the RI by Harding Lawson Associates indicate risks are not predicted for ecological receptor populations at Site 15.
- On June 13, 2000, 20 surface soil samples were collected at Site 15 in the vicinity of RI Phase IIB surface soil sample 15S01501 for the delineation of arsenic.
- Based on the results of the soil sampling, a 10-foot by 10-foot by 2-foot deep volume of soil was identified for excavation in the area.
- On July 21, 2000, approximately 7.4 cubic yards (bank) of soil was excavated from the site. The arsenic-impacted soil was transported offsite and disposed at an appropriate waste facility as non-hazardous waste.
- Arsenic concentrations in surface soil above the FDEP industrial screening criteria have been excavated and removed from the site.
- The site was restored to its original condition and after inspection by base personnel was accepted.
- In a letter dated April 11, 2001, FDEP concluded "the arsenic levels observed in soils at NAS Whiting Field are within the range of concentrations at the outlying fields and they therefore are in naturally occurring concentrations."



- In accordance with the April 11, 2001 FDEP letter, arsenic concentrations in soil at Site 15 are consistent with naturally occurring concentrations and do not constitute a problem at the site.
- The remedial action at this site has achieved the objective and was conducted in accordance with regulatory standards.
- Land Use Controls will be implemented at Site 15 to ensure humans are not exposed to Aroclor-1242 at a depth of 10-11 feet bls in the vicinity of RI sample 15SS0804.

## 8.0– References

CCI Constructors, Inc. *Contract Management Plan*, Contract No. N62467-98-D-0995. July 1998.

CCI Constructors, Inc. *Final Basewide Work Plan, NAS Whiting Field*, Milton, Florida. November 1999.

CCI Constructors, Inc. *Site 15 Sampling and Analysis Plan, Naval Air Station Whiting Field*. July 2000.

CCI Constructors, Inc. *Interim Remedial Action Work Plan, Site 15, Southwest Landfill, Naval Air Station Whiting Field*. 2000.

Harding Lawson Associates, *Remedial Investigation Report, Site 15, Southwest Landfill, Naval Air Station Whiting Field*. December 1999.

# **Appendix A**

## **Data Quality Evaluation Report**



## Chemical Analytical Data Evaluation Report

Report Type: ☐ Preliminary ☒ Final  
Project Name: NASWF, Site 15, CTO 0011  
Laboratory: STL-Pensacola  
Analyses/Method Nos: Arsenic by 6010  
Sample Nos: 15SO3401, 15SO3501, 15SO3601, 15SO3601DUP, 15SO3701, 15RO301  
Evaluator: Theresa Rojas  
Date Received: 7/19/00  
Project Number: 151168.20.01.03.90  
Lab Project/Case No: C006350  
Date Evaluated: 07/19/00

Data Package Deliverables Requirement: CCI Level A

☐ Other, please describe \_\_\_\_\_

Quality Control Deliverables	Required	Received	Passed	Failed
PQL, MDL, RL, etc meets DQOs				
Comment:				
<b>Action Limits are Unknown.</b>				
Holding Times			X	
Comment:				
Sample Condition (preservatives, containers, temperature, etc) / Case Narrative	X	X	X	
Comment:				
Lab Control Sample Recoveries	X	X	X	
Comment:				
Lab Control Sample Duplicate or Other Spike Recoveries				
Comment:				
Lab Control Sample Duplicate or Other Laboratory Duplicate RPD				
Comment:				
Matrix Spike Recoveries	X	X	X	
Comment:				
Matrix Spike Duplicate Recoveries	X	X	X	
Comment:				
Matrix Spike / Matrix Spike Duplicate RPD	X	X	X	
Comment:				
Laboratory Blanks (daily, method, instrument)	X	X	X	
Comment:				
Field Blanks (trip, eqpt rinsate, ambient, matrix)				
Comment:				

Quality Control Deliverables		Required	Received	Passed	Failed
Field Duplicates RPD		X	X	X	
Comment: 17% RPD					
Serial Dilutions					
Comment:					
ICP Interference Check					
Comment:					
Percent Moisture/Solids					
Comment:					
Initial / Continuing Verification					
Comment:					
Sample Prep Worksheets, Run Logs					
Comment:					
Raw Data Calculations					
Comment:					
Laboratory Duplicates					
Comment:					
Comment:					
Completeness	# Samples	# Analyses	Tot # Analyses	Tot # Accept Analyses	% Complete
Completeness = (Tot # Analyses / Tot # Accepted Analyses) x 100	6	1	6	6	100

General Comments:

None

Check Applicable:

- ☐ Lab contacted--Corrective actions in process      Date Contacted: \_\_\_\_\_  
☐ Corrective actions received and accepted      Date Received/Accepted: \_\_\_\_\_  
☒ The data, as reported by the laboratory, are acceptable.  
☐ The data, with qualifiers as described in the "Summary" portion of this report, are acceptable.  
☐ The data are unacceptable.  
☐ Other \_\_\_\_\_

## Chemical Analytical Data Evaluation Report

## SUMMARY OF QUALIFIED DATA

[illegible]

**Narrative:**

**This data package was found to meet the requirements of the methods. The data are valid for use.**

*Minor Fagan*  
Evaluator's Signature

7/19/00  
Date

# **e\*data, inc.**

Environmental Data Management  
& Chemistry Consulting Services

981001

January 30, 2001

Jeff Wilmoth  
CH2M HILL Constructors, Inc.  
115 Perimeter Center Place, N.E.  
Suite 700  
Atlanta, GA 30346-1278

Subject: Data Validation Services for the NAS Whiting Field, Milton, Florida. Remedial Action Contract,  
SoDiv; Contract No. N62467-98-D-0995. CTO #0011 - Site 15.

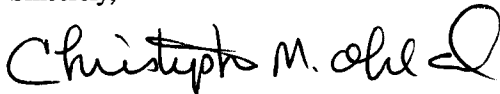
Dear Mr. Wilmoth,

Enclosed please find the data validation package for CTO #0011 - Site 15; NAS Whiting Field, Milton, Florida. A copy of the validated spreadsheet file in MS-Excel97 file format has been e-mailed to jwilmoth@ch2m.com. Three additional fields were added for the validated results, validated qualifiers, and qualifier codes.

This report covers one sample deliver group (SDG) and includes data from laboratory project number CO-07543. Data validation was conducted by Mr. Chris Ohland. Mr. Ohland is a senior data validator.

Please call me at (414) 475-5503 if you have any questions or need additional information.

Sincerely,



Christopher Ohland  
Senior Environmental Chemist

Enclosures  
CMO/jo

Edata\013001LTR.doc

# Data Validation Reference Package

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## Acronyms and Abbreviations

CLP	Contract Laboratory Program
COC	Chain-of-Custody
%D	Percent Difference
DUP	Duplicate
ICP	Inductively Coupled Plasma
IDL	Instrument Detection Limit
IS	Internal Standard
LCS	Laboratory Control Sample
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NFG	National Functional Guidelines
%REC	Percent Recovery
QA	Quality Assurance
QC	Quality Control
RL	Reporting Limits
RPD	Relative Percent Difference
RRF	Relative Response Factor
RSD	Relative Standard Deviation
SDG	Sample Delivery Group



## Data Qualifier Reference Table

Final validated data were assigned qualifiers per USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review and USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (NFG). Table 1 presents all data qualifiers used in data validation for the NAS Whiting Field project.

**TABLE 1**  
EXAMPLE DATA QUALIFIER REFERENCE  
(NAS Whiting Field, Milton Florida, CTO#0011-Site 15)

Qualifier	Inorganics
[none] or [ = ]	The analyte was analyzed for, and detected at the reported concentration. The qualifier [none] was used on the hardcopy reports and the qualifier [ = ] was used on the electronic data deliverables
U	The analyte was analyzed for, but was not detected above the reported sample reporting limit. For metals analyses, the reporting limit is the instrument detection limit (IDL).

## Qualification Code Reference Table

Qualification codes explain why data qualifiers have been applied and identify possible limitations of data use. Table 2 presents all data qualifier codes used in data validation for the NAS Whiting Field project.

**TABLE 2**  
EXAMPLE DATA QUALIFIER CODE REFERENCE  
(NAS Whiting Field, Milton Florida, CTO#0011-Site 15)

Qualifier	Organics	Inorganics
B	Parameter detected in the associated laboratory method or preparation blank. Presumed contamination.	Parameter detected in the associated laboratory method or preparation blank. Presumed contamination.

# Data Validation Report

---

## Introduction

The Navy issued a task order to CH2M HILL Constructors, Inc. (CCI) to conduct sampling activities at (NAS Whiting Field, located in Milton, Florida under Navy Remedial Action Contract, SoDiv; Contract No. N62467-98-D-0995. CTO #0011 - Site 15. This report describes the data validation services provided by E-Data, Inc., in support of CCI project number 151168.

CCI collected soil samples at Whiting Field during a single field events on July 24, 2000. Samples were taken at 2 locations. Field quality control samples including one equipment rinsate blank sample was also submitted to the laboratory.

A summary of the samples collected is shown in Table 3. A summary of the required analyses is shown in Table 4.

Samples were submitted to Sevren Trent Laboratories located in Pensacola, Florida.

Laboratory data were validated using CCI-approved checklist based on the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. A copy of the field Chain-of-custody form and validated laboratory reports with qualifiers and qualifier codes are provided in Appendix A. Appendix B contains copies of the completed checklists.

The final validated-laboratory reports were compared to the electronic data. Table C-1 (Appendix C) summarizes the final 3 sample results that were checked. The database contains 3 results from field and field quality control samples.

This report covers a single sample deliver group (SDG) ) and includes data from laboratory project numbers CO-07543. The SDG is 07543. Mr. Chris Ohland/E-Data, a senior data validator, conducted data validation.

**TABLE 3**

Sample Cross-Reference Summary  
(NAS Whiting Field , Milton Florida, CTO#0011-Site 15)

Lab ID No.	Field Sample ID No.	QC Type	Sampled	Received
C007543*1	20000724-SITE 15-B-01	Normal	7/24/00	7/25/00
C007543*2	20000724-SITE 15-B-02	Normal	7/24/00	7/25/00

**TABLE 4**

Required Analyses Summary

(NAS Whiting Field, Milton Florida, CTO#0011)

Lab ID No.	Field Sample ID No.	SW 846
		6010A
C007543*1	20000724-SITE 15-B-01	1
C007543*2	20000724-SITE 15-B-02	1

## Data Validation Findings Summary

This section presents a summary of the data validation findings of the data reviewer.

### General Comments

No general comments were noted in the review.

### Inorganic Analysis by ICP

The continuing calibration blank contained arsenic. An action level was calculated using the 5X rule. Values reported in samples CO-07543\*1 and CO-07543\*2 were qualified as non-detected and flagged "U."

## Technical Validity and Usability

The analytical performance of this data set is very strong. The analytical results meet the data quality objectives defined by the applicable method and NFG, except as noted in the data validation findings.

## Summary of Qualified Data

A summary of the data qualified during the data validation exercise is summarized in the following table.

**Table 5**  
**Summary of Data Validation Qualified Data**  
**(NAS Whiting Field, Milton, Florida - CTO #0011 - Site 15)**

Lab ID	Sample ID	Fraction	Parameter	Original Lab Data		Validation Updates		
				Result	Qual	Result	Qual	Code
C007543*1	20000724-SITE 15-B-01	Metal	Arsenic	1.4	=	1.4	U	B
C007543*2	20000724-SITE 15-B-02	Metal	Arsenic	1.3	=	1.3	U	B

**Qualifier Codes:**

B Parameter detected in the associated laboratory method or preparation blank. Presumed contamination.

## **Appendix A**

### **Validated Reports of Analysis**

# METALS

- 1 -

## INORGANIC ANALYSIS DATA PACKAGE

Client: N/A

SDG No.: 7543

Method Type: SW 846

Sample ID: C007543-1

Client ID: 20000724-SITE 15-B-01

Contract: N/A

Lab Code: STL PEN

Case No.: N/A

SAS No.: N/A

Matrix: SOIL

Date Received: 7/25/00

Level: \_\_\_\_\_

% Solids: 97.5

*val*  
*Qual*

*Qual*  
*Code*

CAS No.	Analyte	Concentration	Units	C	Qual	M	DL	Instrument ID	Analytical Run
7440-38-2	Arsenic	1.4	mg/Kg	U	β	P	0.29	TJA61E Trace	TJULY27A

Color Before: \_\_\_\_\_

Clarity Before: \_\_\_\_\_

Texture: \_\_\_\_\_

Color After: \_\_\_\_\_

Clarity After: \_\_\_\_\_

Artifacts: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

*CMMO 01/25/01*

# METALS

- 1 -

## INORGANIC ANALYSIS DATA PACKAGE

Client: N/A

SDG No.: 7543

Method Type: SW 846

Sample ID: C007543-2

Client ID: 20000724-SITE 15-B-02

Contract: N/A

Lab Code: STL PEN

Case No.: N/A

SAS No.: N/A

Matrix: SOIL

Date Received: 7/25/00

Level: \_\_\_\_\_

% Solids: 97.1

*Valid Qual Code*

CAS No.	Analyte	Concentration	Units	C	Qual	M	DL	Instrument ID	Analytical Run
7440-38-2	Arsenic	1.3	mg/Kg	4	B	P	0.28	TJA61E Trace	TJULY27A

Color Before: \_\_\_\_\_

Clarity Before: \_\_\_\_\_

Texture: \_\_\_\_\_

Color After: \_\_\_\_\_

Clarity After: \_\_\_\_\_

Artifacts: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

*ORNB 01/25/01*





**Appendix B**  
**Data Validation Checklists**

**QUALITY ASSURANCE REVIEW  
DATA VALIDATION CHECKLIST  
Inorganic (Metals and Cyanide) Data**

Project File: \_\_\_\_\_

Sampling Date: 7/24/00

Laboratory: SIL-Pensacola

Receipt Date: 7/25/00

SDG Number: 00-07543

Matrix: ☐ Water ☒ Soil/Sediment ☐ Air

2 Soil

Sample Identification numbers:

<u>07543-1</u>	_____	_____	_____	_____
<u>↓ - 2</u>	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

The general criteria used to determine the data performance and quality assurance were based on:

- ☐ Hazardous Waste Remedial Actions Program (HAZWRAP) Requirements for Quality Control of Analytical Data (HAZWRAP DOE/HWP-65/R2)
- ☐ USEPA Contract Laboratory Program (CLP) National Laboratory Functional Guidelines for Inorganic Data Review (EPA-540/R-94/013, February 1994)
- ☒ USEPA SW846 (SW-846) Methods (6010, 6020, 7000 series, 9010, 9012, 9013)
- ☐ USEPA Drinking Water (DW) Methods (200.7, 200.9, 200.15, 202.1, 202.2, 1620)
- ☐ Air Force Center for Environmental Excellence (AFCEE) QAPP Version 3.0
- ☒ Other: Lab QC limits

The following parameters were examined: holding time, sample preservation, ICP MS tunes, initial and continuing calibrations, laboratory and field blank results, laboratory and field duplicate results, ICP interference check sample (ICS) results, matrix spike (MS) results, laboratory control sample (LCS) results, ICP serial dilution results, ICP MS dilution test results, and detection limits.

Reviewed by: Chris O'Brien

Date: 01/25/01

QA Concurrence by: \_\_\_\_\_

Date: \_\_\_\_\_

## Validation Summary

No deficiencies were found, except  
arsenic was detected in the continuing calibration  
blank @ 0.301  $\mu\text{g}/\text{kg}$ . Action levels were calculated  
using the 5x rule and results for 07543-1, -2  
were qualified as non-detected and flagged "U."



UJ - Not detected, limit of detection approximate.

## II. INITIAL CALIBRATION

### A. Inductively Coupled Plasma (ICP) Analysis:

☒ Yes☐ No

Yes No

☒ ☐

The instrument was standardized with at least a blank and one traceable standard.

☒ ☐

The initial calibration verification (ICV) solutions were immediately analyzed after each instrument was calibrated.

☒ ☐

Analyses for As, Pb, Se and Ti were performed by ICP.

### B. Graphite Furnace Atomic Absorption (GFAA) Analysis:

☐ Yes☒ No

Yes No

☐ ☐

Calibration standards were prepared daily, or each time an analysis is to be made.

☐ ☐

A blank and at least three traceable calibration standards were used in establishing each analytical curve, with the blank being analyzed first.

☐ ☐

The concentration for one of the calibration standards was at the Contract Required Detection Limit (CRDL).

☐ ☐

The ICV solutions were immediately analyzed after each instrument was calibrated.

☐ ☐

The calibration curves have a correlation coefficient of  $\geq$  \_\_\_\_\_.

### C. Cold Vapor (CV) Mercury Analysis:

☐ Yes☒ No

Yes No

☐ ☐

The instrument was standardized with at least a blank and \_\_\_\_\_ traceable standards.

☐ ☐

The concentration for one of the calibration standards was at the CRDL.

☐ ☐

The ICV solutions were immediately analyzed after each instrument was calibrated.

☐ ☐

The calibration curves have a correlation coefficient of  $\geq$  \_\_\_\_\_.

### D. Cyanide Analysis:

☐ Yes☒ No

Yes No

☐ ☐

The instrument was standardized with a blank and at least \_\_\_\_\_ traceable standards.

☐ ☐

The concentration for one of the calibration standards was at the CRDL.

☐ ☐

At least \_\_\_\_\_ calibration standard(s) was distilled and compared to similar values on the curve to ensure that the distillation technique is reliable.

☐ ☐

The distilled standard(s) agreed within  $\pm$  \_\_\_\_\_ % of the undistilled standard(s).

☐ ☐

The ICV standard solution was distilled with each batch of samples analyzed. (An ICV distilled with a particular set of samples must be analyzed only with that sample set.)

☐ ☐

The ICV solutions were immediately analyzed after each instrument was calibrated.

☐ ☐

The calibration curves have a correlation coefficient of  $\geq$  \_\_\_\_\_.

**E. ICP Mass Spectrometry (MS) Analysis:**☐ Yes☒ No**MS Tuning**

Yes

No

☐☐

Mass calibration and resolution checks in the mass regions of interest were conducted.

☐☐

Mass calibration and resolution parameters were met prior to any sample analysis.

**ICP MS Initial Calibration:**

Yes

No

☐☐

The instrument was calibrated using the calibration blank and at least \_\_\_\_\_ traceable calibration standard(s).

☐☐

The instrument was flushed with the rinse blank between each standard solution. The average of at least three integrations for both calibration and sample analyses was used.

☐☐

The ICV was prepared in the same acid matrix as the calibration standards.

☐☐

The ICV solution was an independent traceable standard near the midpoint of the linear range at a concentration other than that used for instrument calibration. (An independent standard is defined as a standard composed of the analytes from a source different from those used in the standards for instrument calibration.)

☐☐

The ICV solution was analyzed immediately after the calibration was established.

☐☐The results of the ICV solution and the instrument check standard were within  $\pm$  \_\_\_\_\_ % of the expected value.**F. LINEARITY**

Multipoint calibrations having a correlation coefficient (r) of less than \_\_\_\_\_ are listed below:

Element	r	Calibration Date/Time	Affected Samples

Remarks:

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### III. CONTINUING CALIBRATION VERIFICATION

The continuing calibration verification (CCV) standard was traceable and analyzed at the beginning of the run and after the last analytical sample.

Yes	No	Yes	No	Yes	No
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	ICP Analysis		GFAA Analysis		CV Mercury Analysis
<input type="checkbox"/>	Cyanide Analysis	<input type="checkbox"/>	ICP MS Analysis		

The CCV standard was analyzed at a frequency of 10 % or every \_\_\_\_\_ hours during the analytical run, whichever is more frequent.

Yes	No	Yes	No	Yes	No
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	ICP Analysis		GFAA Analysis		CV Mercury Analysis
<input type="checkbox"/>	Cyanide Analysis	<input type="checkbox"/>	ICP MS Analysis		

Recoveries for initial and/or continuing calibrations were within the control limits.

Control Limits: Mercury \_\_\_\_\_ %; Other Metals 90-110 %; Cyanide \_\_\_\_\_ %.

Yes	No	Yes	No	Yes	No
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	ICP Analysis		GFAA Analysis		CV Mercury Analysis
<input type="checkbox"/>	Cyanide Analysis	<input type="checkbox"/>	ICP MS Analysis		

The following calibration deficiencies were found:

Calibration Date	Instr ID	ICV / CCV	Analyte	%R	Affected Samples	Action

Remarks:

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#### IV. CRI/CRA ANALYSIS

##### A. CRI ICP Analysis

Yes No

- ☐ ☐ The CRI was analyzed at the beginning and end of each sample analysis run, or at a minimum of \_\_\_\_\_ per 8 hour working shift, whichever is more frequent, but not before the ICV.
- ☐ ☐ The CRI standard was analyzed at 2x CRDL, or 2x the instrument detection limit (IDL) which ever is greater, for all ICP analyses.
- ☐ ☐ Recoveries for the CRI were within acceptance limits.

##### B. CRA Analysis for GFAA and Cold Vapor Hg

The CRA was analyzed at the beginning of each sample analysis run, but not before the ICV.

Yes No Yes No  
☐ ☐ GFAA Analysis ☐ ☐ CV Mercury Analysis

The CRA solution was prepared at the CRDL or at the IDL, whichever is greater.

Yes No Yes No  
☐ ☐ GFAA Analysis ☐ ☐ CV Mercury Analysis

Recoveries for the CRA were within acceptance limits (GFAA: \_\_\_\_\_%; Mercury \_\_\_\_\_%).

Yes No Yes No  
☐ ☐ GFAA Analysis ☐ ☐ CV Mercury Analysis

The following deficiencies were found for the CRI/CRA analysis:

Calibration Date	Instr ID	CRI / CRA	Analyte	%R	Affected Samples

Remarks:

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☒ No Action was taken to qualify data based on CRI/CRA recoveries.

## V. BLANKS

Yes No

- ☒ ☐ Calibration and/or preparation blanks were analyzed for each matrix.
- ☒ ☐ Blanks were reported at the IDL for all non-detects.
- ☒ ☐ The initial calibration blank (ICB) was analyzed after the analytical standards, but not before the ICV analysis.
- ☒ ☐ A continuing calibration blank (CCB) was analyzed for every 10 samples or every \_\_\_\_ hours, whichever occurred more frequently.
- ☒ ☐ The CCB was analyzed at the beginning of the analytical run, and after the last CCV that was analyzed after the last analytical sample of the run.
- ☐ ☐ For ICP MS analysis, three types of blanks were used: the calibration blank (for establishing the calibration curve), the preparation blank (to monitor for possible contamination resulting from sample preparation procedures) and the rinse blank (to flush the system between all samples and standards).
- ☐ ☐ For ICP MS analysis, the results of all calibration blanks were less than 3x the IDL.
- ☒ ☐ Negative blanks were reported.
- ☒ ☐ Field QC samples were associated with this SDG.

**Note:** Negative blanks whose absolute values are > IDL must be carefully evaluated to determine their effect on the sample data. When the observed blank exceeds a negative CRDL, all non-detects should be considered unusable.

Field QC associated with this SDG were:

Field Blanks	Associated Samples	Field Blanks	Associated Samples
07543-3	07543-1, -2		

Equip Blanks	Associated Samples	Equip Blanks	Associated Samples

[illegible]

## Action Level Summary

[illegible]

Remarks:

## VI. ICP INTERFERENCE CHECK SAMPLE

Yes ☒ No ☒

☒ ☐  
☒ ☐

The ICS was between the QC limits of 80-120 %.

For ICP analysis, the interference QC samples were run at the beginning and end of each sample analysis run or at a minimum of 2 per 8 hour working shift, whichever occurred more frequently.

☐ ☐  
☒ ☐

For the ICP MS analysis, the interference check solutions A and AB were analyzed at the beginning of an analytical run and once every \_\_\_\_\_ hours, whichever was more frequent.

No deficiencies were found.

The following deficiencies were found:

Analyte	True Conc	Found Conc	%R	Affected Samples	Action

Report the concentration of any elements detected in the ICS A solution >2 x IDL that should be present.

Element	Concentration detected in the ICS	Interferent concentration in the ICS			
		Al	Ca	Fe	Mg

Estimate the concentration produced by the interfering element in all affected samples. List the samples affected by the interferences below:

Affected Sample	Affected Element	Sample Conc.	Interferent Concentration in the ICS				Estimated Interference
			Al	Ca	Fe	Mg	

Remarks:

\_\_\_\_\_  
\_\_\_\_\_

**Matrix:** Soil

<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

55.9-94.5

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>

**No deficiencies were found.**

[illegible]

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## VIII. DUPLICATE SAMPLE ANALYSIS

**Yes** ☒ **No** ☐

☒ ☐

A laboratory sample/duplicate analysis was performed for every matrix in a batch, at a frequency of one matrix duplicate for every 10 samples.

☒ ☐

Reported relative percent differences (RPDs) for laboratory sample/duplicate analysis were            % for water, (or 15 % for soil) when the original and duplicate values were  $\pm 5$  x CRDL (or the reporting limit). 20%

☒ ☐

The control limit of  $\pm$  the CRDL was used for water ( $\pm 2 \times$  the CRDL for soil) when either the sample or duplicate value was  $< 5 \times$  CRDL. (In the case where only one result was above the  $5 \times$  CRDL level and the other was below, the  $\pm$  the CRDL criteria was applied.)

☒

If both sample and duplicate values were < the IDL, the RPD was not calculated.

1111

For ICP MS analysis, the control limit of \_\_\_\_% RPD was not exceeded for analyte values greater than 100 x the IDL.

☐ ☒

~~Field duplicate data were included in this data package.~~

☐ ☒

Qualification of field duplicate data was attempted.

Sample/Duplicate ID: CO-07543-1S

**Matrix:** 201

### Field/Laboratory Precision Evaluation Deficiency Worksheet:

[illegible]

Remarks:

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## IX. MATRIX SPIKE ANALYSIS

E MS Duplicate

Yes No



Field QC samples were not used for MS analyses.



% Recoveries were within QC limits.



No deficiencies were found.

Matrix spike Sample ID: CO-07543-1 ; found in SDG 07543 ; Matrix Soil .

The following deficiencies were found:

Element	Sample Result (SR)	Spike Added (SA)	Spiked Sample Result (SSR)	%R	Action	Comments

Remarks:

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# **X. GRAPHITE FURNACE ATOMIC ABSORPTION (GFAA)/CYANIDE ANALYSIS QC**

Yes

No

☐
☐

All GFAA analyses fell within the calibration range.

☐
☐

All GFAA analyses were performed in duplicate injections, except during full method of standard additions (MSA).

☐
☐

No more than \_\_\_\_\_ samples (\_\_\_\_\_ injections) were performed between each consecutive CCV and blank analysis.

☐
☐

The relative standard deviation (RSD) or coefficient of variation (CV) for duplicate sample injection concentrations greater than the CRDL was less than \_\_\_\_\_%.

☐
☐

For GFAA, ICP, and CN analysis, when the pre-distillation/pre-digestion spike recovery fell outside the control limits and the sample result did not exceed 4x the spike added, a post-digestion/post-distillation spike was performed for those elements that did not meet criteria.

☐
☐

The post-digestion spike concentration was at 2 x the CRDL (except for lead which must be at 20µg/L).

☐
☐

The spike percent recoveries were within acceptance limits (\_\_\_\_\_%).

☐
☐

MSA was performed on samples with spiked recoveries outside criteria.

☐
☐

The correlation coefficients for all MSA analyses were greater than or equal to \_\_\_\_\_.

☐
☐

No deficiencies were found.

The following deficiencies were found:

## **A. Duplicate injections**

Samples with concentrations reported >CRDL and post-digestion spikes providing a repeated duplicate injection coefficient of variation (CV) > \_\_\_\_\_% are tabulated below:

Sample ID	Element	CV or %RSD	Action

Remarks:

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**B. Post-digestion Spike Recovery**

List below those samples with post-digestion spike recoveries not within \_\_\_\_\_%, which are either greater than \_\_\_\_\_%, having a native sample absorbance less than \_\_\_\_\_% of the spiked sample value; or samples with post-digestion spike recoveries less than \_\_\_\_\_%, that when diluted 5-10 fold had no improvement in recovery (still < \_\_\_\_\_%); where the native sample absorbance is less than \_\_\_\_\_% of the spiked sample value.

Sample ID	Element	%R	Action

Remarks:

POS performed on CD-07543-1A w/ good performance

**C. Method of Standard Additions:**

Samples analyzed by MSA that were not spiked at the appropriate levels and/or samples analyzed by MSA that provided replicated linearity coefficients (r) of < \_\_\_\_\_ are tabulated below:

Element	r	Spiking Levels	Action	Affected Samples

Remarks:

N/A

**Yes** ~~**No**~~

☒

**No**

1

1

7

When the concentration of an analyte in the original sample was sufficiently high, the serial dilution analysis (a 5-fold dilution) agreed within a \_\_\_\_\_% Difference of the original determination after the correction for dilution.

☒

7

**No deficiencies were found.**

Serial Dilution Sample ID: C0-07543-15

[illegible]

Remarks:

**Yes**

**No**

7

□

☐☐

When the analyte concentration was within the linear range of the instrument and sufficiently high (minimally, a factor of at least 100 times greater than the concentration of the reagent blank, an analysis of a fivefold (1+4) dilution agreed within  $\pm$  \_\_\_\_\_% of the original determination.

☐

**No deficiencies were found.**

[illegible]

Remarks:

### XIII. INSTRUMENT DETECTION LIMITS

**Yes** ~~**No**~~

**No**

☒

1

Reported IDLs were determined quarterly, and were less than the CRDLs. *cmo*

☒☐

**No deficiencies were found.**

List any analytes for which the reported IDL is not lower than the required detection level (CRDL).

[illegible]**Remarks:**

**Appendix C**  
**EDD Verification**

**Table C-1**  
**Summary of EDD Results Compared to Report of Analysis**  
**(NAS Whiting Field, Milton, Florida - CTO #0011 - Site 15)**

		Lab Sample ID:	C007543*1	C007543*2	C007543*3
		Field Sample ID:	20000724-	20000724-	20000724-
			SITE 15-B-01	SITE 15-B-02	SITE15-EB-01
		Sample Collection Date:	8/6/00	8/24/00	8/24/00
		Type of Sample:	Regular	Regular	Eq. Blank
Parameter	Units				
Inorganic Metals					
Arsenic	mg/kg	1.4 U	1.3 U	--	
Arsenic	µg/L	--	--	3.0	

**Data Quality Evaluation Report  
UST and Soil Removal Activities  
at Site 15  
Naval Air Station Whiting Field  
Milton, Florida**

Soil samples were collected at NAS Whiting Field, Milton, Florida Site 15 in June and July 2000. Field quality control samples included equipment rinsate blanks, field duplicates and matrix spike/matrix spike duplicate pairs were submitted to Severn Trent Laboratories, Pensacola, FL.

All confirmation and backfill sample analysis data was validated by E\*Data, Inc. for compliance with the analytical method requirements. This also included a review of the data to assess the accuracy, precision, and completeness using CCI-approved checklist based on Environmental Protection Agency (EPA) *National Functional Guidelines for Organic Data Review* and *National Functional Guidelines for Inorganic Data Review*. Quality assurance/quality control (QA/QC) summary forms and data reports were reviewed.

All Delineation sample analysis data was reviewed by Jeff Wilmoth at CCI/ATL. All associated QC,(LCS and MS/MSD), passed with acceptable recoveries and %RPD's. No contamination was present in the Method Blank.

Several quality control exceptions resulted in qualification of the analytical data. These exceptions and qualifications are included in Appendix A.

No data were rejected during the data review/validation process. The project objectives and the data can be used in the project decision-making process as qualified by the data quality evaluation process.

Jeff Wilmoth  
Lab Coordinator/Data Manager  
CCI/ATL



## **Appendix B**

### **Survey Data**

# Survey Data

The following survey data are provided for Site 15, NAS Whiting Field:

*Note:*

*Horizontal Datum is NAD (North American Datum) 83 (1990) SPC FL. N., US Survey FT.  
Vertical Datum is NAVD (North American Vertical Datum) 88.*

Description	North Coordinate (feet NAD)	East Coordinate (feet NAD)	Elevation (feet NAVD)
15SO1501	625518.33	1174908.48	102.30
<b>15SO1501 Sample Grid:</b>			
15SO2801	625556.01	1174870.76	99.80
15SO2701	625556.05	1174895.73	101.60
15SO2801	625555.67	1174920.69	102.00
15SO2901	625555.46	1174945.49	102.90
15SO3001	625530.77	1174870.72	101.60
15SO3101	625530.49	1174895.63	101.50
15SO3201	625530.91	1174920.91	102.10
15SO3301	625530.52	1174946.05	103.20
15SO3401	625523.00	1174903.44	102.10
15SO3501	625523.07	1174913.35	102.10
15SO3601	625513.11	1174913.40	102.20
15SO3701	625513.84	1174903.40	102.30
15SO3801	625506.00	1174871.00	101.10
15SO3901	625505.18	1174895.84	102.10
15SO4001	625505.69	1174921.37	102.60
15SO4101	625505.39	1174946.17	104.00
15SO4201	625481.08	1174871.58	102.10
15SO4301	625480.52	1174896.50	102.60
15SO4401	625480.24	1174921.29	104.30
15SO4501	625480.35	1174946.08	104.30

**PREPARED BY:**

KENNETH R. WENGLER  
3011 S.W. WILLISTON ROAD  
GAINESVILLE, FL 32608-3928  
(352) 335-7991

NOT VALID UNLESS SIGNED AND SEALED  
WITH EMBOSSED STAMP.

**CERTIFICATION:**

I HEREBY CERTIFY THAT THIS IS AN ACCURATE REPRESENTATION OF  
A FIELD SURVEY MADE UNDER MY RESPONSIBLE CHARGE AND  
MEETS THE MINIMUM TECHNICAL STANDARDS AS SET FORTH BY  
THE FLORIDA BOARD OF PROFESSIONAL LAND SURVEYORS IN  
CHAPTER 61G17, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO  
SECTION 472.027, FLORIDA STATUTES.

BY:

*Kenneth R. Wengler*  
KENNETH R. WENGLER, FLA. REG. NO. 3413

DATE OF SURVEY: JUNE 8 & 20, 2000

*July 17, 2000*  
DATE

# Survey Data

The following survey data are provided for Site 15, NAS Whiting Field:

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KENNETH R. WENGLER, FLA. REG. NO. 3413

DATE OF SURVEY: JUNE 8 & 20, 2000

July 17, 2000  
DATE

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15SO4501	625480.35	1174946.08	104.30

**PREPARED BY:**

KENNETH R. WENGLER  
3011 S.W. WILLISTON ROAD  
GAINESVILLE, FL 32608-3928  
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SECTION 472.027, FLORIDA STATUTES.

BY:

*Kenneth R. Wengler*  
KENNETH R. WENGLER, FLA. REG. NO. 3413

DATE OF SURVEY: JUNE 8 & 20, 2000

DATE: *July 12, 2000*

# Survey Data

The following survey data are provided for Site 15, NAS Whiting Field:

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BY:

*Kenneth R. Wengler*  
KENNETH R. WENGLER, FLA. REG. NO. 3413

DATE OF SURVEY: JUNE 8 & 20, 2000

*July 17, 2000*  
DATE

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15SO3501	625523.07	1174913.35	102.10
15SO3601	625513.11	1174913.40	102.20
15SO3701	625513.64	1174903.40	102.30
15SO3801	625506.00	1174871.00	101.10
15SO3901	625505.18	1174895.84	102.10
15SO4001	625505.69	1174921.37	102.60
15SO4101	625505.39	1174946.17	104.00
15SO4201	625481.06	1174871.58	102.10
15SO4301	625480.52	1174896.50	102.60
15SO4401	625480.24	1174921.29	104.30
15SO4501	625480.35	1174946.08	104.30

**PREPARED BY:**


KENNETH R. WENGLER  
3011 S.W. WILLISTON ROAD  
GAINESVILLE, FL 32608-3928  
(352) 335-7991

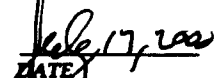
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CHAPTER 61G17, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO  
SECTION 472.027, FLORIDA STATUTES.

BY:

  
KENNETH R. WENGLER, FLA. REG. NO. 3413  
DATE OF SURVEY: JUNE 8 & 20, 2000

  
DATE: July 17, 2000

# Survey Data

The following survey data are provided for Site 15, NAS Whiting Field:

*Note:*

*Horizontal Datum is NAD (North American Datum) 83 (1990) SPC FL. N., US Survey FT.*

*Vertical Datum is NAVD (North American Vertical Datum) 88.*

Description	North Coordinate (feet NAD)	East Coordinate (feet NAD)	Elevation (feet NAVD)
15SO1501	625518.33	1174908.48	102.30
<b>15SO1501 Sample Grid:</b>			
15SO2801	625556.01	1174870.76	99.80
15SO2701	625556.05	1174895.73	101.60
15SO2801	625555.67	1174920.69	102.00
15SO2901	625555.46	1174945.49	102.90
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15SO3101	625530.49	1174895.63	101.50
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15SO4501	625480.35	1174946.08	104.30

**PREPARED BY:**

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GAINESVILLE, FL 32608-3928  
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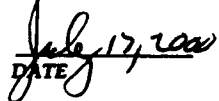
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SECTION 472.027, FLORIDA STATUTES.

BY:

  
KENNETH R. WENGLER, FLA. REG. NO. 3413

DATE OF SURVEY: JUNE 8 & 20, 2000

DATE 

# Survey Data

The following survey data are provided for Site 15, NAS Whiting Field:

*Note:*

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**PREPARED BY:**

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GAINESVILLE, FL 32608-3928  
(352) 335-7991

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BY:

  
KENNETH R. WENGLER, FLA. REG. NO. 3413

DATE OF SURVEY: JUNE 8 & 28, 2000

DATE: July 17, 2000



# Survey Data

The following survey data are provided for Site 15, NAS Whiting Field:

*Note:*

*Horizontal Datum is NAD (North American Datum) 83 (1990) SPC FL. N., US Survey FT.*

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**PREPARED BY:**

KENNETH R. WENGLER  
3011 S.W. WILLISTON ROAD  
GAINESVILLE, FL 32608-3928  
(352) 335-7991

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BY:

  
KENNETH R. WENGLER, FLA. REG. NO. 3413

DATE OF SURVEY: JUNE 8 & 24, 2000

DATE 

# Survey Data

The following survey data are provided for Site 15, NAS Whiting Field:

*Note:*

*Horizontal Datum is NAD (North American Datum) 83 (1990) SPC FL. N., US Survey FT.*

*Vertical Datum is NAVD (North American Vertical Datum) 88.*

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**PREPARED BY:**

KENNETH R. WENGLER  
3011 S.W. WILLISTON ROAD  
GAINESVILLE, FL 32608-3928  
(352) 335-7991

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SECTION 472.027, FLORIDA STATUTES.

BY:

*Kenneth R. Wengler*  
KENNETH R. WENGLER, FLA. REG. NO. 3413

*July 14, 2000*  
DATE

DATE OF SURVEY: JUNE 8 & 20, 2000

# Survey Data

The following survey data are provided for Site 15, NAS Whiting Field:

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**PREPARED BY:**

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3011 S.W. WILLISTON ROAD  
GAINESVILLE, FL 32608-3928  
(352) 335-7991

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BY:

  
KENNETH R. WENGLER, FLA. REG. NO. 3413

DATE OF SURVEY: JUNE 8 & 20, 2000

  
DATE

# Survey Data

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**PREPARED BY:**

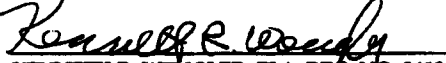
KENNETH R. WENGLER  
3011 S.W. WILLISTON ROAD  
GAINESVILLE, FL 32608-3928  
(352) 335-7991

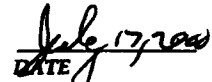
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BY:

  
KENNETH R. WENGLER, FLA. REG. NO. 3413  
DATE OF SURVEY: JUNE 8 & 20, 2000

  
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# Survey Data

The following survey data are provided for Site 15, NAS Whiting Field:

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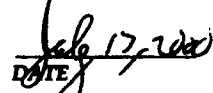
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DATE OF SURVEY: JUNE 8 & 20, 2000

  
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# Survey Data

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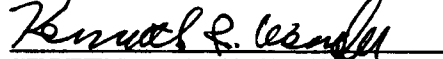
KENNETH R. WENGLER  
3011 S.W. WILLISTON ROAD  
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BY:

  
KENNETH R. WENGLER, FLA. REG. NO. 3413  
DATE OF SURVEY: JUNE 8 & 20, 2000

  
DATE: JULY 17, 2000

# Survey Data

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15SO4001	625505.69	1174921.37	102.60
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15SO4201	625481.06	1174871.58	102.10
15SO4301	625480.52	1174896.50	102.60
15SO4401	625480.24	1174921.29	104.30
15SO4501	625480.35	1174946.08	104.30

**PREPARED BY:**

KENNETH R. WENGLER  
3011 S.W. WILLISTON ROAD  
GAINESVILLE, FL 32608-3928  
(352) 335-7991

NOT VALID UNLESS SIGNED AND SEALED  
WITH EMBOSSED STAMP.

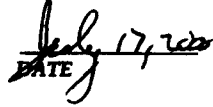
**CERTIFICATION:**

I HEREBY CERTIFY THAT THIS IS AN ACCURATE REPRESENTATION OF  
A FIELD SURVEY MADE UNDER MY RESPONSIBLE CHARGE AND  
MEETS THE MINIMUM TECHNICAL STANDARDS AS SET FORTH BY  
THE FLORIDA BOARD OF PROFESSIONAL LAND SURVEYORS IN  
CHAPTER 61G17, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO  
SECTION 472.027, FLORIDA STATUTES.

BY:

  
KENNETH R. WENGLER, FLA. REG. NO. 3413

DATE OF SURVEY: JUNE 8 & 20, 2000

  
DATE

# Survey Data

The following survey data are provided for Site 15, NAS Whiting Field:

*Note:*

*Horizontal Datum is NAD (North American Datum) 83 (1990) SPC FL. N., US Survey FT.*

*Vertical Datum is NAVD (North American Vertical Datum) 88.*

Description	North Coordinate (feet NAD)	East Coordinate (feet NAD)	Elevation (feet NAVD)
15SO1501	625518.33	1174908.48	102.30
<b>15SO1501 Sample Grid:</b>			
15SO2601	625556.01	1174870.76	99.80
15SO2701	625556.05	1174895.73	101.60
15SO2801	625555.67	1174920.69	102.00
15SO2901	625555.46	1174945.49	102.90
15SO3001	625530.77	1174870.72	101.60
15SO3101	625530.49	1174895.63	101.50
15SO3201	625530.91	1174920.91	102.10
15SO3301	625530.52	1174946.05	103.20
15SO3401	625523.00	1174903.44	102.10
15SO3501	625523.07	1174913.35	102.10
15SO3601	625513.11	1174913.40	102.20
15SO3701	625513.64	1174903.40	102.30
15SO3801	625506.00	1174871.00	101.10
15SO3901	625505.18	1174895.84	102.10
15SO4001	625505.69	1174921.37	102.60
15SO4101	625505.39	1174946.17	104.00
15SO4201	625481.06	1174871.58	102.10
15SO4301	625480.52	1174896.50	102.60
15SO4401	625480.24	1174921.29	104.30
15SO4501	625480.35	1174946.08	104.30

**PREPARED BY:**

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3011 S.W. WILLISTON ROAD  
GAINESVILLE, FL 32608-3928  
(352) 335-7991

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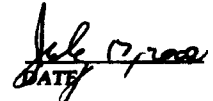
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BY:

  
KENNETH R. WENGLER, FLA. REG. NO. 3413

DATE OF SURVEY: JUNE 8 & 20, 2000

  
DATE



# Survey Data

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*Note:*

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<b>15SO1501 Sample Grid:</b>			
15SO2601	625556.01	1174870.76	99.80
15SO2701	625556.05	1174895.73	101.60
15SO2801	625555.67	1174920.69	102.00
15SO2901	625555.46	1174945.49	102.90
15SO3001	625530.77	1174870.72	101.60
15SO3101	625530.49	1174895.63	101.50
15SO3201	625530.91	1174920.91	102.10
15SO3301	625530.52	1174946.05	103.20
15SO3401	625523.00	1174903.44	102.10
15SO3501	625523.07	1174913.35	102.10
15SO3601	625513.11	1174913.40	102.20
15SO3701	625513.64	1174903.40	102.30
15SO3801	625506.00	1174871.00	101.10
15SO3901	625505.18	1174895.84	102.10
15SO4001	625505.69	1174921.37	102.60
15SO4101	625505.39	1174946.17	104.00
15SO4201	625481.06	1174871.58	102.10
15SO4301	625480.52	1174896.50	102.60
15SO4401	625480.24	1174921.29	104.30
15SO4501	625480.35	1174946.08	104.30

**PREPARED BY:**

KENNETH R. WENGLER  
3011 S.W. WILLISTON ROAD  
GAINESVILLE, FL 32608-3928  
(352) 335-7991

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CHAPTER 61G17, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO  
SECTION 472.027, FLORIDA STATUTES.

BY:

  
KENNETH R. WENGLER, FLA. REG. NO. 3413

DATE OF SURVEY: JUNE 8, 2000

  
DATE: JULY 17, 2000

# Survey Data

The following survey data are provided for Site 15, NAS Whiting Field:

*Note:*

*Horizontal Datum is NAD (North American Datum) 83 (1990) SPC FL. N., US Survey FT.*

*Vertical Datum is NAVD (North American Vertical Datum) 88.*

Description	North Coordinate (feet NAD)	East Coordinate (feet NAD)	Elevation (feet NAVD)
15SO1501	625518.33	1174908.48	102.30
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15SO3601	625513.11	1174913.40	102.20
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15SO3801	625506.00	1174871.00	101.10
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**PREPARED BY:**

KENNETH R. WENGLER  
3011 S.W. WILLISTON ROAD  
GAINESVILLE, FL 32608-3928  
(352) 335-7991

NOT VALID UNLESS SIGNED AND SEALED  
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SECTION 472.027, FLORIDA STATUTES.

BY:

  
KENNETH R. WENGLER, FLA. REG. NO. 3413

DATE OF SURVEY: JUNE 20, 2000

  
DATE: JUL 17, 2000

## **Appendix C**

### **Waste Disposal Information**

- Waste Disposal Summary
- Manifests
- Weight Tickets
- Certificates of Disposal/Destruction



# GENERATOR WASTE PROFILE SHEET

Requested Disposal Facility:

Timberland

an Allied Waste Company

Permit #27-08

Waste Profile #

Date:

7-19-00

## I. GENERATOR INFORMATION

Generator Name: <u>NAS WHITING FIELD</u>			
Generator Site Address: <u>7151 USS WASP ST. NAS WHITING FIELD, PWD</u>			
City: <u>MILTON</u>	County: <u>SANTA ROSA</u>	State: <u>FL</u>	Zip: <u>32570</u>
Generator State ID No: <u>FL2170 23244</u>		SIC Code No:	
Generator Mailing Address (if different):			
City:	County:	State:	Zip:
Generator Contact Name: <u>RON STABLEN</u>			
Phone Number: <u>800-623-7181 EXT. 40</u>		Fax Number: <u>800-623-7515</u>	

## II. TRANSPORTER INFORMATION

Transporter Name: <u>SWS</u>			
Transporter Address: <u>3036 Dial Street</u>			
City: <u>Mobile</u>	County: <u>mobile</u>	State: <u>AL</u>	Zip: <u>36612</u>
Transporter Contact Name: <u>ADDY ADAMS</u>			
Phone Number: <u>334-330-1021</u>		Fax Number: <u>334-330-1024</u>	State Transportation #: <u>FL0 0093683</u>

## III. WASTE STREAM INFORMATION

Name of Waste:	<u>ARSENIC IMPACTED SOILS</u>		
Process Generating Waste:	<u>ONE TIME CLEANUP</u>		
Type of waste:	INDUSTRIAL PROCESS WASTE or <u>POLLUTION CONTROL WASTE</u>		
Physical State:	<u>SOLID</u> SEMI-SOLID POWDER LIQUID OTHER:		
Method of Shipment:	<u>BULK</u> DRUM BAGGED OTHER / EXPLAIN:		
Estimated Annual Volume:	CUBIC YARDS: <u>10</u>	TONS:	OTHER:
Frequency:	<u>ONE TIME ONLY</u> DAILY WEEKLY MONTHLY OTHER / EXPLAIN:		

SPECIAL HANDLING INSTRUCTIONS: ALL MATERIAL MUST BE DISPOSED OF IN A  
RELINATED LINED (SUBTILED) LANDFILL. Small State

## IV. REPRESENTATIVE SAMPLE CERTIFICATION

Is the representative sample collected to prepare this profile and laboratory analysis, collected in accordance with U.S. EPA § 40 CFR 261.20(c) guidelines or equivalent rules?		YES or NO
Sample Date: <u>6/13/00, 12/09/95</u>	Circle one: COMPOSITE SAMPLE	<u>GRAB SAMPLE</u>
Sampler's Employer: <u>CH2M HILL (6/13/00)</u>		
Sampler's Name (printed): <u>STAN ELLER</u>		Signature:

Waste Profile # \_\_\_\_\_

V. PHYSICAL CHARACTERISTICS OF WASTECHARACTERISTIC COMPONENTS

% BY WEIGHT (range)

1. DIRT 90%
2. VEGETATION <5%
3. DEBRIS <5%

Color <u>GRAY - BROWN</u>	Odor (describe): <u>DIRT</u>	Free Liquids: YES or <u>NO</u> Content _____ %	% Solids: <u>100%</u>	pH: <u>N/A</u>	Flash Point: <u>&gt;300°F</u>	Phenol <u>N/A</u> _____ ppm
----------------------------------	---------------------------------	--	--------------------------	-------------------	-------------------------------------	-----------------------------------

**Attach Laboratory Analytical Report (and or Material Safety Data Sheet)  
Including Required Parameters Provided for this Profile**

Does this waste or generating process contain regulated concentrations of the following Pesticides and/or Herbicides: Chlordane, Endrin, Heptachlor (and its epoxides), Lindane, Methoxychlor, Toxaphene, 2, 4-D, 2, 4, 5, -TP Silvex as defined in § 40 CFR 261.33?	YES or <u>NO</u>
Does this waste or generating process cause it to exceed OSHA exposure limits from high levels of Hydrogen Sulfide or Hydrogen Cyanide as defined in § 40 CFR 261.23?	YES or <u>NO</u>
Does this waste contain regulated concentrations of Polychlorinated Biphenyls (PCBs) as defined in § 40 CFR Part 761?	YES or <u>NO</u>
Does this waste contain regulated concentrations of listed hazardous wastes defined by § 40 CFR 261.31, 261.32, 261.33, including RCRA F-Listed Solvents?	YES or <u>NO</u>
Does this waste contain regulated concentrations of 2, 3, 7, 8 -Tetrachlorodibenzodioxin (2, 3, 7, 8 -TCDD), or any other dioxin as defined in § 40 CFR 261.31?	YES or <u>NO</u>
Is this a regulated Toxic Material as defined by Federal and/or State regulations?	YES or <u>NO</u>
Is this a regulated Radioactive Waste as defined by Federal and/or State regulations?	YES or <u>NO</u>
Is this a regulated Medical or Infectious Waste as defined by Federal and/or State regulations?	YES or <u>NO</u>
Is this waste generated at a Federal Superfund Clean Up Site?	YES or <u>NO</u>

VI. GENERATOR CERTIFICATION

I hereby certify that to the best of my knowledge and belief, the information contained herein is a true and accurate description of the waste material being offered for disposal. I further certify that by utilizing this profile, neither myself nor any other employee of the company will deliver for disposal or attempt to deliver for disposal any waste which is classified as toxic waste, hazardous waste, medical or infectious waste, or any other waste material this facility is prohibited from accepting by law. Our company hereby agrees to fully indemnify this disposal facility against any damages resulting from this certification being inaccurate or untrue.

RONALD STABLER  
AUTHORIZED REPRESENTATIVE NAME AND TITLE (Printed)

Ronald Stabler  
AUTHORIZED REPRESENTATIVE SIGNATURE

NAS WHITING FIELD  
COMPANY NAME

24 JULY 00  
DATE

VII. ALLIED WASTE DECISION

Approved \_\_\_\_\_

Rejected \_\_\_\_\_

Expiration: \_\_\_\_\_

Conditions:

Name, Title

Signature

Date



# GENERATOR WASTE PROFILE SHEET

## INSTRUCTIONS FOR THE COMPLETION OF GENERATOR WASTE PROFILE SHEET

### PURPOSE

The Generator Waste Profile Sheet is to be completed to properly identify and characterize the type of waste that is requested for acceptance. All information provided and certified by the generator of the waste identified by the Waste Profile Sheet is true, correct, and accurate.

This form is to be used when applying for acceptance approval of a new waste stream or the renewal of an existing waste stream.

### WASTE PROFILE SHEET INFORMATION

**Waste Profile Number:** Leave blank. Company tracking number will be issued by the Compliance & Landfill Development Department of Allied Waste.

**Disposal Facility:** Enter the name of the proposed landfill facility for the ultimate disposal of the non-hazardous solid waste stream.

### I. GENERATOR INFORMATION

**Generator Name and Address:** Enter the required information including the name, address, telephone number of the company generating the waste stream for disposal. If the address to where correspondence is to be sent is different from the site address, complete the mailing address, otherwise, type "SAME". Also enter the Generator's Contact Person's Name and telephone number.

**Generator State ID Number:** Applies only if State Agency issues ID Numbers (i.e., Illinois EPA has a ten digit code assigned to each generator of special waste). If the State Agency does not issue a number enter "n/a".

**SIC Code Number:** Each industry class is assigned a four-digit code called a Standard Industrial Classification Code. The classification is assigned to the process which generates a specific product.

### II. TRANSPORTATION INFORMATION

**Transporter:** Enter general information of the waste hauler who is to transport the waste.

### III. WASTE STREAM INFORMATION

**Waste Name:** Provide the common name of the major component or substance that most accurately describes the waste.

**Process Description:** Provide a description of the process or operation which generates the waste.

**Pollution Control Waste or Industrial Process Waste:** Check the one category which applies to the waste stream.

**Pollution Control Waste** means any waste generated as a direct or indirect result of the removal of contaminants from the air, water, or land, which pose a present or potential threat to human health or to the environment or with the inherent properties which make the disposal of such waste in a landfill difficult to manage by normal means. "Pollution Control Waste" includes, but is not limited to, water and wastewater treatment plant sludge, baghouse dusts, landfill wastes, scrubber sludges, chemical spill cleaning.

**Industrial Process Waste** means any waste generated as a direct or indirect result of the manufacture of the product or the performance of a service, which would pose a present or potential threat to human health or to the environment or with inherent properties which make the disposal of such waste in a landfill difficult to manage by normal means. "Industrial Process Waste" includes, but is not limited to, spent pickling liquors, cutting oils, chemical catalyst, distillation bottoms, etching acids, equipment cleaning, paint sludge, incinerator ashes (including but not limited to ash resulting from the incineration of potentially infectious medical waste), core sands, metallic dust sweepings, asbestos dust, and off-specification, contaminated or recalled wholesale or retail products. Specifically excluded are uncontaminated packaging material, uncontaminated machinery components, general household waste, landscape waste, and construction and demolition debris.

**Physical State:** Circle one of the choices listed. Give the most accurate phase of the waste.

**Method of Shipment:** Circle one of the choices listed. Describe the planned method of transportation to the disposal site.

**Estimated Annual Volume:** List the estimated annual volume in cubic yards or tons. If other, explain (i.e., drums).

**Frequency:** Circle one of the choices listed. Approximately how often the disposal of the waste is to occur.

**Special Handling Instructions:** Indicate any specific instructions.

**NAS Whiting Field/Public  
Works Department**

7151 USS Wasp Street  
Milton, FL 3257-6159  
850-623-7181 Ext. 40  
Fax 850-623-7515  
E-Mail [ron.stabler@smtp.cnet.navy.mil](mailto:ron.stabler@smtp.cnet.navy.mil)

July 27, 2000

Mr. Tony Gomillion  
Director of Solid Waste  
SRC Department of Public Works  
1095 Old Bagdad Highway  
Milton, FL 32570

Dear Mr. Gomillion:

A Remedial Excavation Project of Site 15 located on the southwest end of Naval Air Station Whiting Field has generated approximately 10 cubic yards of soil that contains small amounts of inorganic material, (metals). Analysis indicates that this material is not a hazardous waste, and is not regulated under the Resource Conservation and Recovery Act, (Subtitle C).

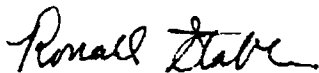
I request that this material be accepted for disposal at Santa Rosa County Landfill as special waste and placed in the lined portion of Santa Rosa County Landfill.

It is understood that a commensurate disposal fee will be charged and that CH2MHILL or their designee will pay all disposal costs.

If you have any questions please contact Ron Stabler at 623-7181, extension 40. A fax response will be acceptable.

As always, your cooperation is greatly appreciated.

Sincerely,



Ronald Stabler  
Hazardous Waste Manager  
NAS Whiting Field



**Department of Public Works**  
**SANTA ROSA COUNTY, FLORIDA**  
**Milton, Florida 32583**

FRANK ROWELL  
Director of Public Works  
6075 Old Bagdad Hwy.  
626-0191 • 994-5721 • 623-2221  
FAX 523-1331

AVIS WHITFIELD, Director  
Road & Bridge Dept.  
6075 Old Bagdad Hwy.  
626-0191 • 994-5721 • 623-2221

TONY GOMILLION, Director  
Solid Waste/Mosquito Control/  
Environmental Control  
6075 Old Bagdad Hwy.  
626-0191 • 994-5721 • 623-2221

JAMES P. STEWART, Director  
Building Maintenance/Parks/Animal Control  
P.O. Box 854  
623-1599 • 938-1877

July 27, 2000

Mr. Ron Stabler  
NAS Whiting Field  
Public Works Dept.  
7151 USS Wasp Street  
Milton, Florida 32570-6159

VIA FAX: 850/623-7515

Dear Mr. Stabler:

Your authorization for disposal of soil referenced in your July 27<sup>th</sup> letter is approved and should be identified as SPW #290. Be sure the hauler identifies this material upon arrival. This authorization expires August 18, 2000.

Sincerely,

A handwritten signature in black ink, appearing to read "Tony M. Gomillion".

Tony M. Gomillion  
Director of Environmental Control  
Santa Rosa County

TMG/vb



COPY

SANTA ROSA COUNTY  
SOLID WASTE DEPARTMENT  
CENTRAL LANDFILL

TAG# 5  
Ticket# 100612  
Date 08/10/00  
WEIGHMASTER Gordonfan

Time In 11:43  
Time Out 12:01

Vehicle No. 195  
Account No. 300

Tires # 0  
Tire \$ \$ 0.00

CASH

SRC Description cost/ton  
9 SPECIAL WASTE 50.00

Gross 52520 lb  
Tare 32860 lb  
Net 19660 lb  
Net Tons 9.83

DRIVER

Amount Due \$ 491.50

WEIGHT MASTER

OPEN MON-SAT 7AM-5PM / CLOSED SUNDAY (950) 623-9643

8/10/00

NAS WHITING FIELD

# 151168.20.01.03.90

CTO-11 - SITE 15

DISPOSAL OF SOIL

@ SANTA ROSA LANDFILL

9.83 tons @ \$50/TON  
= \$491.50

**NON-HAZARDOUS  
WASTE MANIFEST**

1. Generator's US EPA ID No.

F12170023244

Manifest  
Document No.

ST15

2. Page 1

of 1

2000 08 10

3. Generator's Name and Mailing Address

NAS Whiting Field  
7157 USS Wasp St. Milton Fl 32570

4. Generator's Phone (850) 623-7181

5. Transporter 1 Company Name

Southern Waste Service, Inc.

6. US EPA ID Number

FLO000936831

A. Transporter's Phone

850-969-0092

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address

Santa Rosa County Landfill

10. US EPA ID Number

C. Facility's Phone

6387 Dalisa Rd. Milton Fl 32583

1057C 000015

850-623-9843

11. Waste Shipping Name and Description

a. Arsenic Impacted Soil (NON-HAZARDOUS)

12. Containers

No.

Type

13. Total  
Quantity

14. Unit  
Wt/Vol

001 BX 00010 TN

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

HA. APPROVAL SPW #290

Box 8153

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name

James B Holland

Signature

[Signature]

Month Day Year

08/10/00

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Robert A Legasse

Signature

[Signature]

Month Day Year

08/11/00

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

James Lee

Signature

[Signature]

Month Day Year

8/10/00

## **Appendix D**

### **Analytical Data**

- Delineation Sampling Analytical Results
- Confirmation Sampling Analytical Results (CD only)



LOG NO: C0-06350  
Received: 14 JUN 00  
Reported: 10 JUL 00

Ms. AMY TWITTY  
CH2M Hill  
1778 Sea Lark Lane  
Navarre, FL 32566

Project: NASWF, SITE 15  
Sampled By: Client  
Code: 084100710  
Page 1

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES				DATE/ TIME SAMPLED
06350-1	15SO3401				06-13-00/17:38
06350-2	15SO3501				06-13-00/17:50
06350-3	15SO3601				06-13-00/17:57
06350-4	15SO3601 (DUP)				06-13-00/17:57
06350-5	15SO3701				06-13-00/18:03
PARAMETER	06350-1	06350-2	06350-3	06350-4	06350-5
Arsenic (6010), mg/kg dw	1.7	2.1	2.0	1.9	1.6
Analyst	GSP	GSP	GSP	GSP	GSP
Prep Date	06.14.00	06.14.00	06.14.00	06.14.00	06.14.00
Analysis Date	06.15.00	06.15.00	06.15.00	06.15.00	06.15.00
Batch ID	PS114	PS114	PS114	PS114	PS114
Prep Method	3050A	3050A	3050A	3050A	3050A
Dilution Factor	1	1	1	1	1



LOG NO: C0-06350  
Received: 14 JUN 00  
Reported: 10 JUL 00

Ms. AMY TWITTY  
CH2M Hill  
1778 Sea Lark Lane  
Navarre, FL 32566

Project: NASWF, SITE 15  
Sampled By: Client  
Code: 084100710  
Page 2

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
06350-6	15R0301	06-13-00/20:30
PARAMETER	06350-6	
Arsenic (6010), mg/l	<0.005	
Analyst	CH	
Prep Date	06.15.00	
Analysis Date	06.16.00	
Batch ID	PW199	
Prep Method	3010	
Dilution Factor	1	



LOG NO: C0-06350  
Received: 14 JUN 00  
Reported: 10 JUL 00

Ms. AMY TWITTY  
CH2M Hill  
1778 Sea Lark Lane  
Navarre, FL 32566

Project: NASWF, SITE 15  
Sampled By: Client  
Code: 084100710  
Page 3

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID	DATE/ TIME SAMPLED		
06350-7	Method Blank			
06350-8	Lab Control Standard % Recovery			
06350-9	Matrix Spike % Recovery			
06350-10	Matrix Spike Duplicate % Recovery			
PARAMETER	06350-7	06350-8	06350-9	06350-10
Arsenic (6010), mg/kg dw	0.40 U	103.9 %	95.8 %	94.4 %
Analyst	GSP	GSP	GSP	GSP
Prep Date	06.14.00	06.14.00	06.14.00	06.14.00
Analysis Date	06.15.00	06.15.00	06.15.00	06.15.00
Batch ID	PS114	PS114	PS114	PS114
Prep Method	3050A	3050A	3050A	3050A
Dilution Factor	1	1	1	1



LOG NO: C0-06350  
Received: 14 JUN 00  
Reported: 10 JUL 00

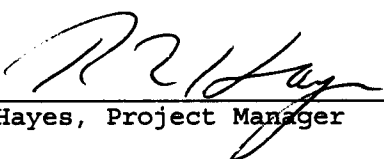
Ms. AMY TWITTY  
CH2M Hill  
1778 Sea Lark Lane  
Navarre, FL 32566

Project: NASWF, SITE 15  
Sampled By: Client  
Code: 084100710  
Page 4

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED			
06350-11	Method Blank				
06350-12	Lab Control Standard % Recovery				
06350-13	Matrix Spike % Recovery				
06350-14	Matrix Spike Duplicate % Recovery				
PARAMETER	06350-11	06350-12	06350-13	06350-14	
Arsenic (6010), mg/l	<0.005	102 %	102 %	102 %	
Analyst	CH	CH	CH	CH	
Prep Date	06.15.00	06.15.00	06.15.00	06.15.00	
Analysis Date	06.16.00	06.16.00	06.16.00	06.16.00	
Batch ID	PW199	PW199	PW199	PW199	
Prep Method	3010	3010	3010	3010	
Dilution Factor	1	1	1	1	

These test results meet all the requirements of NELAC. All questions regarding this test report should be directed to the STL Project Manager who signed this test report.

  
Rick Hayes, Project Manager

Final Page Of Report

## Data Qualifiers for Final Report

### STL-Pensacola Inorganic/Organic

J4	(For positive results)	Temperature limits exceeded ( $\leq 2^{\circ}\text{C}$ or $\geq 6^{\circ}\text{C}$ ), non-reportable for NDPEs compliance monitoring.
J6	(For positive results)	LCS or Surrogate %R is > upper control limit (UCL), results may be biased high
J9	(For positive results)	LCS or Surrogate %R is < lower control limit (LCL), results may be biased low
J7		The reported value is > the laboratory MDL and < lowest calibration standard; therefore, the quantitation is an estimation (this qualifier should only be used when the STL-PN RL is below the lowest calibration standard in the initial calibration).
J (description)		The analyte was positively identified, the quantitation may be an estimation
R1	(For nondetects)	Temperature limits exceeded ( $\leq 2^{\circ}\text{C}$ or $\geq 6^{\circ}\text{C}$ ); non-reportable for NDPEs compliance monitoring
R2		Improper preservation, no preservative present or insufficient amounts of preservative in sample upon receipt, non-reportable for NDPEs compliance monitoring
R3		Improper preservation, incorrect preservative present in sample upon receipt, non-reportable for NDPEs compliance
R4		Holding time exceeded, non-reportable for NDPEs compliance monitoring.
R5		Collection requirements not met, improper container used for sample
R6		LCS or surrogate %R is < LCL and analyte is not detected or surrogate %R is < 10% for detects/nondetects.
R7		Internal standard area outside -50% to +100% of calibration verification standard.
R8		Initial calibration or any calibration verification exceeds acceptance criteria.
R10		Headspace > 1/4" in diameter in volatile vials, non-reportable for NDPEs compliance monitoring
R12		Analysis performed outside the 12-hour tune or not within tune criteria.
R (description)		The data may be unusable due to deficiencies in the ability to analyze the sample and meet QC criteria
F		The reported value is < STL-Pensacola RL and > the STL-Pensacola MDL; therefore, the quantitation is estimation (assume the STL-PN RL is at or above lowest calibration standard in the initial calibration curve).
U		The reported value is < Laboratory MDL (value for result will be the MDL, never below the MDL)
B3		The analyte was found in the associated blank as well as in the associated sample(s) (qualifier is applied to the sample, not to the blank).
B1		The analyte was detected in the associated method blank (sample itself is flagged even though sample is ND).
B2		The analyte was detected in the sample(s) and in the associated method blank analyzed on the day samples were extruded; however, this analyte was not detected in the blank analyzed with the samples.
B4		Sample results were corrected due to contaminants in Fractionation Blank
@		Adjusted reporting limit due to sample composition, not due to overcal (dilution prior to digestion and/or analysis).
#		Elevated reporting limit due to insufficient sample size
M		A matrix effect was present (1 sample, MS or MSD was analyzed twice to confirm surrogate/spike failure, 2 sample and/or MS/MSD chromatogram(s) had interfering peaks, 3 sample result was > 4 X spike added, 4 metals serial dilution was performed, or 5 metals post spike is < 40% R)
NoMS		Not enough sample provided to prepare and/or analyze a method-required matrix spike (MS) and/or duplicate (MSD)
N/C*		Not Calculable; Sample spiked is > 4X spike concentration (may also use this flag in place of negative numbers)
D		Diluted out (surrogate or spike due to sample dilution)
T		Second-column or detector confirmation exceeded the SW-846 criteria of 40% RPD for this compound.
TIC		The compound is not within the initial calibration curve. It is searched for qualitatively or as a Tentatively Identified Compound.
1 pt		The compound has been quantitated against a one point calibration.
E		Compound concentration exceeds the upper calibration range of the instrument.
S2		Incorrect sample amount was submitted to the laboratory for analysis
<b>Normally used for Inorganics Only</b>		
S3 (Flashpoint)		This method is not designed for solids and the results may not be accepted by any regulator for such purposes.
R9		Not filtered and preserved at time of collection.
R11		Samples were filtered and preserved within 4 hours of collection.
* (Metals & Wet Chem)		Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis)
W		Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance.
G		Sample and/or duplicate result is at or below 5 X (times) the STL Reporting Limit and the absolute difference between the sample and duplicate result is at or below the STL reporting limit; therefore, the results are "in control".
Q		The analytical (post digestion) spike is reported due to the percent recovery being outside limits on the matrix (pre-digestion) spike.
H1		Sample and/or duplicate is below 5 X (times) the STL Reporting Limit and the absolute difference between the results exceeds the STL Reporting Limit; therefore, the results are "out of control"
H2		Sample and duplicate (or MS and MSD) RPD is above control limit.
NH		Sample and duplicate results are "out of control". The sample is nonhomogeneous.
J8		Matrix spike and post spike recoveries are outside control limits. See out of Control Events/Corrective Action Form.
S1		The Method of Standard Additions (MSA) has been performed on this sample.





Severn Trent Laboratories, Inc.  
Pensacola, FL 32514  
Tel: (850) 474-1001  
Fax: (850) 478-2671

**Any time** a sample arrives at the laboratory improperly preserved (at improper pH, temperature or with chlorine present) or after holding time has expired, the laboratory is required to reject the samples. The client must be notified in writing (i.e. OOC/CA form or PSIF). The project manager is responsible for ensuring the client or laboratory takes corrective action. If the client requests that samples be prepared and/or analyzed when improperly preserved and/or outside holding time, the final report must be flagged and corrective action must be taken with the client to ensure this does not happen on a regular basis.

#### **Abbreviations**

ND	Not Detected at or above the STL-Pensacola reporting limit (RL)
&	Automated
NS	Not Submitted
NA	Not Applicable
DISS	Dissolved
T&D	Total & Dissolved
R	Reactive
TOT	Total
IDL	STL-PN Instrument Detection Limit
MDL	STL-PN Method Detection Limit
RL	STL-PN Reporting Limit

#### **Florida Projects Inorganic/Organic**

Refer to FL DEP 62-160.700(7); Table 7 Data Qualifier Codes. FL DEP Rule 62-160.670(1)(h) states that laboratories shall include the analytical result for each analysis with applicable data qualifiers. FL DEP Rule 62-160.700(7), Table 7 lists the FL DEP data qualifiers. FL DEP Rule 62-160.700(3), Table 3 lists the Florida sites which require data qualifiers.

#### **AFCEE QAPP Projects**

Refer to AFCEE QAPP for appropriate data qualifiers (AFCEE QAPP Version will be specified by client for the project).

#### **CLP and CLP-like Projects**

Refer to referenced CLP Statement of Work (SOW) for explanation of data qualifiers. CLP SOW to be followed must be specified to client.

**SEVERN TRENT LABORATORIES, INC. – PENSACOLA, FLORIDA**  
**STATE CERTIFICATIONS**

*Alabama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL)*

*Arizona Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater)*

*Arkansas Department of Pollution Control and Ecology, (No Laboratory ID No. assigned by state) (Environmental)*

*State of California, Department of Health Services, Laboratory ID No. 2338 (Hazardous Waste and Wastewater)*

*State of Connecticut, Department of Health Services, Connecticut Lab Approval No. PH-0697 (Drinking Water, Hazardous Waste and Wastewater)*

*Delaware Health & Social Services, Division of Public Health, Laboratory ID No. FL094 (Drinking Water by Reciprocity with FL)*

*Florida DOH Laboratory ID No. 81142 (Drinking Water), Laboratory ID No. E81010 (Hazardous Waste and Wastewater)*

*Florida, Radioactive Materials License No. G0733-1*

*Foreign Soil Permit, Permit No. S-37599*

*Kansas Department of Health & Environment, Laboratory ID No. E10253 (Wastewater and Hazardous Waste)*

*Commonwealth of Kentucky, Natural Resources and Environmental Protection Cabinet, Laboratory ID No. 90043 (Drinking Water)*

*State of Louisiana, DHH, Office of Public Health Division of Laboratories, Laboratory ID No. LA000017 (Drinking Water)*

*State of Maryland, DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida)*

*Commonwealth of Massachusetts, DEP, Laboratory ID No. M-FL094 (Hazardous Waste and Wastewater)*

*State of Michigan, Bureau of E&OcH, Laboratory ID No. 9912 (Drinking Water by Reciprocity with Florida)*

*New Hampshire DES ELAP, Laboratory ID No. 250599A (Wastewater)*

*State of New Jersey, Department of Environmental Protection & Energy, Laboratory ID No. 49006 (Wastewater and Hazardous Waste)*

*New York State, Department of Health, Laboratory ID No. 11503 (Wastewater and Solids/Hazardous Waste)*

*North Carolina Department of Environment & Natural Resources, Laboratory ID No. 314 (Hazardous Waste and Wastewater)*

*North Dakota DH&Consol Labs, Laboratory ID No. R-108 (Hazardous Waste and Wastewater by Reciprocity with Florida)*

*State of Oklahoma, Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater)*

*Commonwealth of Pennsylvania, Department of Environmental Resources, Laboratory ID No. 68-467 (Drinking Water)*

*South Carolina DH&EC, Laboratory ID No. 96026 (Wastewater by Reciprocity with FL and Solids/Hazardous Waste by Reciprocity with CA)*

*Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water)*

*Tennessee Division of Underground Storage Tanks Approved Laboratory*

*Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL)*

*State of Washington, Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater)*

*West Virginia Division of Environmental Protection, Office of Water Resources, Laboratory ID No. 136 (Hazardous Waste and Wastewater by Reciprocity with FL)*

*American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 100704*

**Severn Trent Laboratories of Florida**  
**PROJECT SAMPLE INSPECTION FORM**

Lab Order #: 006350

Date Received: 6/14/00

1. Was there a Chain of Custody? Yes No\*

2. Was Chain of Custody properly filled out and relinquished? Yes No\*

3. Were samples received cold? Yes No\* N/A  
(Criteria: 2° - 6°C: STL-SOP 1055)

4. Were all samples properly labeled and identified? Yes No\*

5. Did samples require splitting or compositing\*? Yes\* No

6. Were samples received in proper containers for analysis requested? Yes No\*  
Req By: PM Client Other\*

7. Were all sample containers received intact? Yes No\*

8. Were samples checked for preservative? Yes No\* N/A  
(Check pH of all H<sub>2</sub>O requiring preservative (STL-PN SOP 917) except VOA vials that require zero headspace)\*

9. Is there sufficient volume for analysis requested? Yes No\* N/A (Can)

10. Were samples received within Holding Time? Yes No\* (REFER TO STL-SOP 1040)

11. Is Headspace visible > 1/4" in diameter in VOA vials? If any headspace is evident, comment in out-of-control section. Yes\* No N/A

12. If sent, were matrix spike bottles returned? Yes No\* N/A

13. Was Project Manager notified of problems? (initials: \_\_\_\_\_) Yes No\* N/A

Airbill Number(s): WALK-IN

Shipped By: WALK-IN

Cooler Number(s): WALK-IN

Shipping Charges: \_\_\_\_\_

Cooler Weight(s): \_\_\_\_\_

Cooler Temp(s) (°C): 4°C (Cocks)

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

**Out of Control Events and Inspection Comments:**

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: OLL Date: 6/14/00 Logged By: LLK Date: 14-Jun-00

\* Note all Out-of-Control and/or questionable events on Comment Section of this form.

\* If Other, note who requested the splitting or compositing of samples on the Comment Section of this form. All volatile samples requested to be split or composited must be done in the Volatile Lab. Document: "Volatile sample values may be compromised due to sample splitting (compositing)"

\* All preservatives for the State of North Carolina, the State of New York, and other requested samples are to be recorded on the sheet provided to record pH results (STL-SOP 938, section 2.2.9).

\* According to EPA, 1/4" of headspace is allowed in 40 ml vials requiring volatile analysis, however, STL makes it policy to record any headspace as out-of-control (STL-SOP 938, section 2.2.12).



Tel: (850) 474-1001 • Fax: (850) 474-4789

0006060 (

**CHAIN OF CUSTODY**

## PART 1 - Bottle Shipment Information

**LAB ACCESSION #**[illegible]

**Relinquished By:**

Time

Date \_\_\_\_\_

Received By:

Time

Date: \_\_\_\_\_

**PART 2 - Sample/Project Information**

### PARAMETERS AND PRESERVATIVES REQUESTED

SAMPLE MATRIX CODES							TOTAL # OF BOTTLES
DW DRINKING WATER WW WASTEWATER GW GROUNDWATER	AI AIR SO SOIL OI OIL	SW SURFACE WATER SL SLUDGE ST STORMWATER					
SAMPLE I.D.	SAMPLE DATE	SAMPLE TIME	MATRIX	Arsenic			
15SO3401	6-13-00	1738	SOIL	X			
15SO3501		1750		X			
15SO3601		1757		X			
15SO3601(DUP)		1757		X			
15SO3701		1803		X			
15SO3601		1823		X	HOLD**		
15SO3701		1831		X			
15SO3801		1839		X			
15SO2901		1848		X			
15SO3001	✓	1914	↓	X	↓		

**Total Number of Bottles/Containers:**

Relinquished By

Date \_\_\_\_\_

Time

Received By \_\_\_\_\_

Date:

Time

Stacy Ellis	6/13/00	2200	RR 1 Aug	6-14	0800
722 Aug	6/14/00	0850	Lauren Atkins	6-14-00	0850

Client <u>CHAM HILL</u>			Purchase Order Number
Address <u>17606 Sea Lark Lane</u>			Project Number
City <u>Navarre</u>	State <u>FL</u>	Zip <u>32566</u>	Project Name <u>NASWF</u>
Phone Number <u>(850) 939-8300</u>	Fax Number <u>(850) 939-<del>8035</del></u>		Project Location <u>SITE 15</u>
Project Manager <u>AMY TWITT</u>			Sampled By

## TURNAROUND TIMES

**check below**

### SPECIAL INSTRUCTIONS

**Standard - 14-21 days**

**RUSH (must be approved in advance)**

**< - 48 hours - 2x standard price**

**3-7 days - 1.5x standard price**

**TCLP - 1 week rush 1.5x standard price**

QC Level none I II III IV (circle one)

Copies of report needed \_\_\_\_\_

**LAB ACCESSION #**

COOL 352

[illegible]

### PARAMETERS AND PRESERVATIVES REQUESTED

[illegible]**Total Number of Bottles/Containers:**

Relinquished By	Date	Time	Received By	Date	Time
<i>James Allen</i>	<i>6-13-00</i>	<i>2200</i>	<i>PRR 1st page</i>	<i>6-14</i>	<i>0800</i>
<i>PRR 1st page</i>	<i>6-14-00</i>	<i>0850</i>	<i>James Allen</i>	<i>6-14-00</i>	<i>0850</i>

Client			Purchase Order Number
Address			Project Number
City	State	Zip	Project Name
Phone Number (      )	Fax Number (      )		Project Location
Project Manager			Sampled By

TURNAROUND TIMES	check below	SPECIAL INSTRUCTIONS
Standard - 14-21 days		
<b>RUSH (must be approved in advance)</b>		
< - 48 hours - 2x standard price		
3-7 days - 1.5x standard price		
TCLP - 1 week rush 1.5x standard price		
QC Level   none   I   II <u>III</u> IV   (circle one)	Copies of report needed _____	

SEVERN

TRENT

SERVICES

## STL Pensacola

LOG NO: C0-07543A

Received: 25 JUL 00

Reported: 25 AUG 00

Mr. Scott Dunbar  
CH2M Hill  
115 Perimeter Center Place NE 700  
Atlanta, GA 30346

*Site 15 Cadira*  
Project: CTO-0011, NASWF  
Sampled By: Client  
Code: 111500825  
Page 1

## REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE/ TIME SAMPLED	SDG#
07543A-1	20000724-SITE 15-B-01	07-24-00/16:18	7543
07543A-2	20000724-SITE 15-B-02	07-24-00/16:18	7543
PARAMETER	07543A-1	07543A-2	
Arsenic (6010), mg/kg dw	1.4	1.3	
Dilution Factor	1	1	
Prep Date	07.26.00	07.26.00	
Analysis Date	07.27.00	07.27.00	
Batch ID	PS145	PS145	
Prep Method	3050A	3050A	
Analyst	CH	CH	

SEVERN

TRENT

SERVICES

## STL Pensacola

LOG NO: C0-07543A

Received: 25 JUL 00

Reported: 25 AUG 00

Mr. Scott Dunbar  
CH2M Hill  
115 Perimeter Center Place NE 700  
Atlanta, GA 30346

Project: CTO-0011, NASWF

Sampled By: Client

Code: 111500825

Page 2

## REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED	SDG#
07543A-3	20000724-SITE 15-EB-01	07-24-00/14:10	7543
PARAMETER	07543A-3		
Arsenic (6010), ug/l	3.0 U		
Dilution Factor	1		
Prep Date	07.26.00		
Analysis Date	07.27.00		
Batch ID	PW247		
Prep Method	3010A		
Analyst	CH		



## STL Pensacola

LOG NO: C0-07543A

Received: 25 JUL 00

Reported: 25 AUG 00

Mr. Scott Dunbar  
CH2M Hill  
115 Perimeter Center Place NE 700  
Atlanta, GA 30346

Project: CTO-0011, NASWF

Sampled By: Client

Code: 111500825

Page 3

## REPORT OF RESULTS

DATE/

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID TIME SAMPLED

07543A-4	Method Blank
07543A-5	Lab Control Standard Result
07543A-6	Lab Control Standard True Value
07543A-7	Lab Control Standard % Recovery
07543A-8	LCS Accuracy Control Limit (%R)

PARAMETER	07543A-4	07543A-5	07543A-6	07543A-7	07543A-8
Arsenic (6010), mg/kg dw	0.3 U	76.5	75.2	102 %	55.9-94.5
Dilution Factor	1	1	1	1	1
Prep Date	07.26.00	07.26.00	07.26.00	07.26.00	07.26.00
Analysis Date	07.27.00	07.27.00	07.27.00	07.27.00	07.27.00
Batch ID	PS145	PS145	PS145	PS145	PS145
Prep Method	3050A	3050A	3050A	3050A	3050A
Analyst	CH	CH	CH	CH	CH

## STL Pensacola

LOG NO: C0-07543A

Received: 25 JUL 00

Reported: 25 AUG 00

Mr. Scott Dunbar  
CH2M Hill  
115 Perimeter Center Place NE 700  
Atlanta, GA 30346

Project: CTO-0011, NASWF

Sampled By: Client

Code: 111500825

Page 4

## REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID	DATE/ TIME SAMPLED			
07543A-9	Matrix Spike Result				
07543A-10	Matrix Spike % Recovery				
07543A-11	Matrix Spike Duplicate Result				
07543A-12	Matrix Spike Duplicate % Recovery				
07543A-13	Precision (%RPD) MS/MSD				
PARAMETER	07543A-9	07543A-10	07543A-11	07543A-12	07543A-13
Arsenic (6010), mg/kg dw	89.8	94 %	92.5	93 %	3.0
Dilution Factor	1	1	1	1	1
Prep Date	07.26.00	07.26.00	07.26.00	07.26.00	07.26.00
Analysis Date	07.27.00	07.27.00	07.27.00	07.27.00	07.27.00
Batch ID	PS145	PS145	PS145	PS145	PS145
Prep Method	3050A	3050A	3050A	3050A	3050A
Analyst	CH	CH	CH	CH	CH

## STL Pensacola

LOG NO: C0-07543A

Received: 25 JUL 00

Reported: 25 AUG 00

Mr. Scott Dunbar  
CH2M Hill  
115 Perimeter Center Place NE 700  
Atlanta, GA 30346

Project: CTO-0011, NASWF

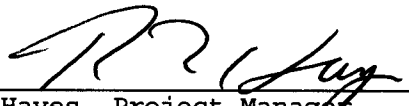
Sampled By: Client

Code: 111500825

Page 5

## REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID	DATE/ TIME SAMPLED
07543A-14	MS Accuracy Advisory Limit (%R)	
07543A-15	MS Precision Advisory Limit (%RPD)	
PARAMETER	07543A-14	07543A-15
Arsenic (6010), mg/kg dw	+/- 25	+/- 20
Dilution Factor	1	1
Prep Date	07.26.00	07.26.00
Analysis Date	07.27.00	07.27.00
Batch ID	PS145	PS145
Prep Method	3050A	3050A
Analyst	CH	CH

  
Rick Hayes, Project Manager

Final Page Of Report

## Data Qualifiers for Final Report

### STL-Pensacola Inorganic/Organic

B1	The analyte was detected in the associated method blank (sample itself is flagged even though sample is ND).
B2	The analyte was detected in the sample(s) and in the associated method blank analyzed on the day samples were extruded; however, this analyte was not detected in the blank analyzed with the samples.
B3	The analyte was found in the associated blank as well as in the associated sample(s) (qualifier is applied to the sample, not to the blank).
B4	Sample results were corrected due to contaminants in Fractionation Blank
D	Diluted out (surrogate or spike due to sample dilution)
E	Compound concentration exceeds the upper calibration range of the instrument.
F	The reported value is < STL-Pensacola RL and > the STL-Pensacola MDL; therefore, the quantitation is estimation (assume the STL-PN RL is at or above lowest calibration standard in the initial calibration curve).
G	Sample and/or duplicate result is at or below 5 X (times) the STL Reporting Limit and the absolute difference between the sample and duplicate result is at or below the STL reporting limit; therefore, the results are "in control".
H1	Sample and/or duplicate is below 5 X (times) the STL Reporting Limit and the absolute difference between the results exceeds the STL Reporting Limit; therefore, the results are "out of control"
H2	Sample and duplicate (or MS and MSD) RPD is above control limit.
J (description)	The analyte was positively identified, the quantitation may be an estimation
J4	(For positive results) Temperature limits exceeded ( $\leq 2^{\circ}\text{C}$ or $\geq 6^{\circ}\text{C}$ ), non-reportable for NDPES compliance monitoring.
J6	(For positive results) LCS or Surrogate %R is > upper control limit (UCL), results may be biased high
J7	The reported value is > the laboratory MDL and < lowest calibration standard; therefore, the quantitation is an estimation (this qualifier should only be used when the STL-PN RL is below the lowest calibration standard in the initial calibration).
J8	Matrix spike and post spike recoveries are outside control limits. See out of Control Events/Corrective Action Form.
J9	(For positive results) LCS or Surrogate %R is < lower control limit (LCL), results may be biased low
M1	A matrix effect was present (1 sample, MS or MSD was analyzed twice to confirm surrogate/spike failure, 2 sample and/or MS/MSD chromatogram(s) had interfering peaks, 3 sample result was > 4 X spike added, 4 metals serial dilution was performed, or 5 metals post spike is < 40% R)
M2	The MS and/or MSD %R or RPD was outside upper or lower control limits; not necessarily due to matrix effect.
N/C*	Not Calculable; Sample spiked is > 4X spike concentration (may also use this flag in place of negative numbers)
NH	Sample and duplicate results are "out of control". The sample is nonhomogeneous.
NoMS	Not enough sample provided to prepare and/or analyze a method-required matrix spike (MS) and/or duplicate (MSD)
Q	The analytical (post digestion) spike is reported due to the percent recovery being outside limits on the matrix (pre-digestion) spike.
R (description)	The data may be unusable due to deficiencies in the ability to analyze the sample and meet QC criteria
R1	(For nondetects) Temperature limits exceeded ( $\leq 2^{\circ}\text{C}$ or $\geq 6^{\circ}\text{C}$ ); non-reportable for NDPES compliance monitoring
R2	Improper preservation, no preservative present or insufficient amounts of preservative in sample upon receipt, non-reportable for NDPES compliance monitoring
R3	Improper preservation, incorrect preservative present in sample upon receipt, non-reportable for NPDES compliance
R4	Holding time exceeded, non-reportable for NDPES compliance monitoring.
R5	Collection requirements not met, improper container used for sample
R6	LCS or surrogate %R is < LCL and analyte is not detected or surrogate %R is < 10% for detects/nondetects.
R7	Internal standard area outside -50% to +100% of calibration verification standard.
R8	Initial calibration or any calibration verification exceeds acceptance criteria.
R9	Not filtered and preserved at time of collection.
R10	Headspace > 1/4" in diameter in volatile vials, non-reportable for NPDES compliance monitoring
R11	Samples were filtered and preserved within 4 hours of collection.
R12	Analysis performed outside the 12-hour tune or not within tune criteria.
S1	The Method of Standard Additions (MSA) has been performed on this sample.
S2	Incorrect sample amount was submitted to the laboratory for analysis
S3 (Flashpoint)	This method is not designed for solids and the results may not be accepted by any regulator for such purposes.
T	Second-column or detector confirmation exceeded the SW-846 criteria of 40% RPD for this compound.
TIC	The compound is not within the initial calibration curve. It is searched for qualitatively or as a Tentatively Identified Compound.
U	The reported value is < Laboratory MDL (value for result will be the MDL, never below the MDL)
W	Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance.
@	Adjusted reporting limit due to sample composition, not due to overcal (dilution prior to digestion and/or analysis).
#	Elevated reporting limit due to insufficient sample size
1 pt	The compound has been quantitated against a one point calibration.
*(Metals & Wet Chem)	Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis)

**SEVERN TRENT LABORATORIES, INC. – PENSACOLA, FLORIDA  
STATE CERTIFICATIONS**

*Alabama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL)*

*Arizona Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater)*

*Arkansas Department of Pollution Control and Ecology, (No Laboratory ID No. assigned by state) (Environmental)*

*State of California, Department of Health Services, Laboratory ID No. 2338 (Hazardous Waste and Wastewater)*

*State of Connecticut, Department of Health Services, Connecticut Lab Approval No. PH-0697 (Drinking Water, Hazardous Waste and Wastewater)*

*Delaware Health & Social Services, Division of Public Health, Laboratory ID No. FLO94 (Drinking Water by Reciprocity with FL)*

*Florida DOH Laboratory ID No. E81010 (Drinking Water, Hazardous Waste and Wastewater)*

*Florida, Radioactive Materials License No. G0733-1*

*Foreign Soil Permit, Permit No. S-37599*

*Kansas Department of Health & Environment, Laboratory ID No. E10253 (Wastewater and Hazardous Waste)*

*Commonwealth of Kentucky, Natural Resources and Environmental Protection Cabinet, Laboratory ID No. 90043 (Drinking Water)*

*State of Louisiana, DHH, Office of Public Health Division of Laboratories, Laboratory ID No. LA000017 (Drinking Water)*

*State of Maryland, DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida)*

*Commonwealth of Massachusetts, DEP, Laboratory ID No. M-FL094 (Hazardous Waste and Wastewater)*

*State of Michigan, Bureau of E&OccH, Laboratory ID No. 9912 (Drinking Water by Reciprocity with Florida)*

*New Hampshire DES ELAP, Laboratory ID No. 250599A (Wastewater)*

*State of New Jersey, Department of Environmental Protection & Energy, Laboratory ID No. 49006 (Wastewater and Hazardous Waste)*

*New York State, Department of Health, Laboratory ID No. 11503 (Wastewater and Solids/Hazardous Waste)*

*North Carolina Department of Environment & Natural Resources, Laboratory ID No. 314 (Hazardous Waste and Wastewater)*

*North Dakota DH&Consol Labs, Laboratory ID No. R-108 (Hazardous Waste and Wastewater by Reciprocity with Florida)*

*State of Oklahoma, Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater)*

*Commonwealth of Pennsylvania, Department of Environmental Resources, Laboratory ID No. 68-467 (Drinking Water)*

*South Carolina DH&EC, Laboratory ID No. 96026 (Wastewater by Reciprocity with FL and Solids/Hazardous Waste by Reciprocity with CA)*

*Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water)*

*Tennessee Division of Underground Storage Tanks Approved Laboratory*

*Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL)*

*State of Washington, Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater)*

*West Virginia Division of Environmental Protection, Office of Water Resources, Laboratory ID No. 136 (Hazardous Waste and Wastewater by Reciprocity with FL)*

*American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 100704*

# Severn Trent Laboratories of Florida

## PROJECT SAMPLE INSPECTION FORM

Lab Order #: C007543A

Date Received: 7/25/00

- |  |  |
|--|--|
| <p>1. Was there a Chain of Custody? <u>Yes</u> No<sup>+</sup></p> <p>2. Was Chain of Custody properly filled out and relinquished? <u>Yes</u> No<sup>+</sup></p> <p>3. Were samples received cold? <u>Yes</u> No<sup>+</sup> N/A<br/>(Criteria: 2° - 6°C: STL-SOP 1055)</p> <p>4. Were all samples properly labeled and identified? <u>Yes</u> No<sup>+</sup></p> <p>5. Did samples require splitting or compositing*? Yes<sup>+</sup> <u>No</u><br/>Req By: PM Client Other*</p> <p>6. Were samples received in proper containers for analysis requested? <u>Yes</u> No<sup>+</sup></p> <p>7. Were all sample containers received intact? <u>Yes</u> No<sup>+</sup></p> | <p>8. Were samples checked for preservative? <u>Yes</u> No<sup>+</sup> N/A<br/><i>(Check pH of all H<sub>2</sub>O requiring preservative (STL-PN SOP 917) except VOA vials that require zero headspace)*</i></p> <p>9. Is there sufficient volume for analysis requested? <u>Yes</u> No<sup>+</sup> N/A<br/>(Can)</p> <p>10. Were samples received within Holding Time? <u>Yes</u> No<sup>+</sup><br/>(REFER TO STL-SOP 1040)</p> <p>11. Is Headspace visible &gt; 1/4" in diameter in VOA vials? If any headspace is evident, comment in out-of-control section. Yes<sup>+</sup> No <u>N/A</u></p> <p>12. If sent, were matrix spike bottles returned? Yes No<sup>+</sup> <u>N/A</u></p> <p>13. Was Project Manager notified of problems? (initials: _____) Yes No<sup>+</sup> <u>N/A</u></p> |
|--|--|

Airbill Number(s): walk in

Shipped By: walk in

Cooler Number(s): client

Shipping Charges: N/A

Cooler Weight(s): N/A

Cooler Temp(s) (°C): 30C  
CCK4  
(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

### Out of Control Events and Inspection Comments:

7/25/00

4. Both soil samples are labeled as B-01. Pkg 4/7/25/00

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: MHS Date: 7/25/00 Logged By: PK Date: 7/25/00

- \* Note all Out-of-Control and/or questionable events on Comment Section of this form.
- \* If Other, note who requested the splitting or compositing of samples on the Comment Section of this form. All volatile samples requested to be split or composited must be done in the Volatile Lab. Document: "Volatile sample values may be compromised due to sample splitting (compositing)"
- \* All preservatives for the State of North Carolina, the State of New York, and other requested samples are to be recorded on the sheet provided to record pH results (STL-SOP 938, section 2.2.9).
- \* According to EPA, 1/4" of headspace is allowed in 40 ml vials requiring volatile analysis, however, STL makes it policy to record any headspace as out-of-control (STL-SOP 938, section 2.2.12).

**CH2MHILL**  
Constructors, Inc.

115 Perimeter Center Place, Suite 700  
Atlanta, GA 30346-1278  
Tel No: (770) 604-9182  
Fax No: (770) 604-9182

**CHAIN-OF-CUSTODY RECORD**

COC NUMBER:  
**151168-000724-01**

PROJECT NAME: **NAS Whiting Field** PROJECT NUMBER: **151168** LAB NAME AND CONTACT: **Seymour Trent Laboratories, Carolyn** FAX AND MAIL REPORTS/SEND TO: **Scott Dunbar, CH2M HILL Constructors, Inc.** RECIPIENT 1 (Address, Tel No., and Fax No.): **OIC, PWD, NAS Whiting Field, 7151 USS Wasp St. Milton, FL 32570 Phone=905.983.1399 Fax =983.3990**

PROJECT PHASE/TASK: **Site 15** CTO OR DO NUMBER: **CTO-0011** LAB NO NUMBER: **1514** FAX AND MAIL REPORTS/SEND TO: **Ilana Schwan, CH2M HILL Constructors, Inc.** RECIPIENT 2 (Address, Tel No., and Fax No.): **115 Perimeter Center Place, NE, Suite 700, Atlanta, Ga. 30346 Phone=770-604-9182 Fax=770.604.9181**

PROJECT CONTACT: **Scott Dunbar or Terry McElveen** PROJECT TEL NO AND FAX NO: **850.983.1399 (Phone) 850.983.3990 (Fax)** LAB TEL NO AND FAX NO: **850.474.1601 (Phone) 850.474.789 (Fax)** FAX AND MAIL REPORTS/SEND TO: **John Custance, CH2M HILL Constructors, Inc.** RECIPIENT 3 (Address, Tel No., and Fax No.): **115 Perimeter Center Place, NE, Suite 700, Atlanta, Ga. 30346 Phone=770-604-9182 Fax=770.604.9996**

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on SOP)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on SOP)	TAT (calendar days)	ANALYSES REQUIRED (Indicate Method Number)										SAMPLE TYPE (see codes on SOP)	COMMENTS/SCREENING READINGS	LAB ID (for lab use)
								6010B (Arsenic)												
1	20000724-Site 15-EB-01	Equipment blank	W	07/24/00	14:40	C	7	X										QC	Preserved @ 4C & HNO3	1 3
2	20000724-Site 15-B-01	Excavation bottom	S	07/24/00	16:18	C	7	X										Grab	Preserved @ 4C	2 1
3	20000724-Site 15-B-02	Excavation bottom	S	07/24/00	16:18	C	7	X										Grab	Preserved @ 4C	3 2
4																				12 25410
5																				
6																				
7																				
8																				
9																				
10																				

SAMPLES AND COMPANY (please print) **Scott Dunbar, CH2M HILL Constructors, Inc.** CO. RHR AND SHIPPING NUMBER **Scott Dunbar, CH2M HILL Constructors, Inc.** SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT (for lab use) **3.0 °C - Cc44**

PRINTED NAME AND SIGNATURE: **Scott Dunbar** *Scott Dunbar* RELINQUISHED BY: **DATE** **7-25-00** **TIME** **1645** RECEIVED BY: **DATE** **7/25/00** **TIME** **1645**

PRINTED NAME AND SIGNATURE: **Scott Dunbar** *Scott Dunbar* RECEIVED BY: **DATE** **7-25-00** **TIME** **1645**

PRINTED NAME AND SIGNATURE: **Scott Dunbar** *Scott Dunbar* RECEIVED BY: **DATE** **7-25-00** **TIME** **1645**





No other problems were encountered with the analysis of these samples.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and (if applicable) in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Marty Edwards

Name: Marty Edwards

Date: 08/21/00

Title: Metals Supervisor

- 1 -

**Method Type:** SW 846

**Client ID:** 20000724-SITE 15-B-01

**SAS No.:** N/A

**Level:**

**Texture:** \_\_\_\_\_

**Artifacts:**\_\_\_\_\_

- 1 -

**Method Type:** SW 846

**Client ID:** 20000724-SITE 15-B-02

**SAS No.:** N/A

**Level:**

<b>% Solids:</b> 97.1
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**Texture:**\_\_\_\_\_

**Artifacts:**\_\_\_\_\_

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- 1 -

**Method Type:** SW 846

**Client ID:** 20000724-SITE 15-EB-01

**SAS No.:** N/A

**Level:**

**Texture:**\_\_\_\_\_

**Artifacts:**\_\_\_\_\_

## METALS

- 2a -

## INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: N/ASDG No.: 7543Contract: N/A Lab Code: STL PENCase No.: N/ASAS No.: N/AInitial Calibration Source: CPIContinuing Calibration Source: CPI

Sample ID	Analyte	Result	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
<b>ICV1</b>									
	Aluminum	9933	10000	99.3	90.0 - 110.0	P	7/27/00	10:13	TJULY27A
	Arsenic	997	1000	99.7	90.0 - 110.0	P	7/27/00	10:13	TJULY27A
	Calcium	10151	10000	101.5	90.0 - 110.0	P	7/27/00	10:13	TJULY27A
	Iron	10117	10000	101.2	90.0 - 110.0	P	7/27/00	10:13	TJULY27A
	Magnesium	10032	10000	100.3	90.0 - 110.0	P	7/27/00	10:13	TJULY27A
<b>CCV1</b>									
	Aluminum	10048	10000	100.5	90.0 - 110.0	P	7/27/00	10:53	TJULY27A
	Arsenic	1000	1000	100.0	90.0 - 110.0	P	7/27/00	10:53	TJULY27A
	Calcium	10320	10000	103.2	90.0 - 110.0	P	7/27/00	10:53	TJULY27A
	Iron	10176	10000	101.8	90.0 - 110.0	P	7/27/00	10:53	TJULY27A
	Magnesium	10191	10000	101.9	90.0 - 110.0	P	7/27/00	10:53	TJULY27A
<b>CCV2</b>									
	Aluminum	10052	10000	100.5	90.0 - 110.0	P	7/27/00	11:54	TJULY27A
	Arsenic	1001	1000	100.1	90.0 - 110.0	P	7/27/00	11:54	TJULY27A
	Calcium	10242	10000	102.4	90.0 - 110.0	P	7/27/00	11:54	TJULY27A
	Iron	10078	10000	100.8	90.0 - 110.0	P	7/27/00	11:54	TJULY27A
	Magnesium	10135	10000	101.3	90.0 - 110.0	P	7/27/00	11:54	TJULY27A
<b>CCV3</b>									
	Aluminum	10040	10000	100.4	90.0 - 110.0	P	7/27/00	12:55	TJULY27A
	Arsenic	1003	1000	100.3	90.0 - 110.0	P	7/27/00	12:55	TJULY27A
	Calcium	10311	10000	103.1	90.0 - 110.0	P	7/27/00	12:55	TJULY27A
	Iron	10184	10000	101.8	90.0 - 110.0	P	7/27/00	12:55	TJULY27A
	Magnesium	10193	10000	101.9	90.0 - 110.0	P	7/27/00	12:55	TJULY27A
<b>CCV4</b>									
	Aluminum	10033	10000	100.3	90.0 - 110.0	P	7/27/00	13:55	TJULY27A
	Arsenic	1020	1000	102.0	90.0 - 110.0	P	7/27/00	13:55	TJULY27A
	Calcium	10394	10000	103.9	90.0 - 110.0	P	7/27/00	13:55	TJULY27A
	Iron	10346	10000	103.5	90.0 - 110.0	P	7/27/00	13:55	TJULY27A
	Magnesium	10313	10000	103.1	90.0 - 110.0	P	7/27/00	13:55	TJULY27A

**METALS****- 2a -****INITIAL AND CONTINUING CALIBRATION VERIFICATION****Client:** N/A**SDG No.:** 7543**Contract:** N/A**Lab Code:** STL PEN**Case No.:** N/A**SAS No.:** N/A**Initial Calibration Source:** CPI**Continuing Calibration Source:** CPI

Sample ID	Analyte	Result	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
<b>CCV5</b>									
	Aluminum	10040	10000	100.4	90.0 - 110.0	P	7/27/00	14:56	TJULY27A
	Arsenic	1017	1000	101.7	90.0 - 110.0	P	7/27/00	14:56	TJULY27A
	Calcium	10451	10000	104.5	90.0 - 110.0	P	7/27/00	14:56	TJULY27A
	Iron	10374	10000	103.7	90.0 - 110.0	P	7/27/00	14:56	TJULY27A
	Magnesium	10363	10000	103.6	90.0 - 110.0	P	7/27/00	14:56	TJULY27A
<b>CCV6</b>									
	Aluminum	10298	10000	103.0	90.0 - 110.0	P	7/27/00	15:21	TJULY27A
	Arsenic	1024	1000	102.4	90.0 - 110.0	P	7/27/00	15:21	TJULY27A
	Calcium	10851	10000	108.5	90.0 - 110.0	P	7/27/00	15:21	TJULY27A
	Iron	10573	10000	105.7	90.0 - 110.0	P	7/27/00	15:21	TJULY27A
	Magnesium	10713	10000	107.1	90.0 - 110.0	P	7/27/00	15:21	TJULY27A

**METALS****- 2b -****CRDL STANDARD FOR AA & ICP****Client:** N/A**SDG No.:** 7543**Contract:** N/A**Lab Code:** STL PEN**Case No.:** N/A**SAS No.:** N/A**AA CRDL Standard Source:** \_\_\_\_\_**ICP CRDL Standard Source:** \_\_\_\_\_

Sample ID	Analyte	Result	True Value	% Recovery	Advisory Limits (%R)	M	Analysis Date	Analysis Time	Run Number
<b>CRDL1</b>									
	Aluminum	112	100	112.0	50 - 150	P	7/27/00	10:23	TJULY27A
	Arsenic	6.50	5.00	130.0	50 - 150	P	7/27/00	10:23	TJULY27A
	Calcium	1057	500	211.4	50 - 150	P	7/27/00	10:23	TJULY27A
	Iron	113	100	113.0	50 - 150	P	7/27/00	10:23	TJULY27A
	Magnesium	516	500	103.2	50 - 150	P	7/27/00	10:23	TJULY27A
<b>CRDL2</b>									
	Aluminum	124	100	124.0	50 - 150	P	7/27/00	15:06	TJULY27A
	Arsenic	7.41	5.00	148.2	50 - 150	P	7/27/00	15:06	TJULY27A
	Calcium	1075	500	215.0	50 - 150	P	7/27/00	15:06	TJULY27A
	Iron	129	100	129.0	50 - 150	P	7/27/00	15:06	TJULY27A
	Magnesium	523	500	104.6	50 - 150	P	7/27/00	15:06	TJULY27A

## METALS

- 3a -

## INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: N/ASDG No.: 7543Contract: N/ALab Code: STL PENCase No.: N/ASAS No.: N/A

Sample ID	Analyte	Result	Acceptance Limit	Conc Qual	MDL	RDL	M	Analysis Date	Analysis Time	Run
ICB1	Aluminum	11.2	+/-100.00	B	10.0	100.0	P	7/27/00	10:18	TJULY27A
	Arsenic	3.00	+/-5.00	U	3.00	5.00	P	7/27/00	10:18	TJULY27A
	Calcium	70.0	+/-500.00	U	70.0	500.0	P	7/27/00	10:18	TJULY27A
	Iron	20.0	+/-4000.00	U	20.0	4000.0	P	7/27/00	10:18	TJULY27A
	Magnesium	13.38	+/-500.00	B	6.00	500.00	P	7/27/00	10:18	TJULY27A
CCB1	Aluminum	24.6	+/-100.00	B	10.0	100.0	P	7/27/00	10:59	TJULY27A
	Arsenic	3.00	+/-5.00	U	3.00	5.00	P	7/27/00	10:59	TJULY27A
	Calcium	70.0	+/-500.00	U	70.0	500.0	P	7/27/00	10:59	TJULY27A
	Iron	22.9	+/-4000.00	B	20.0	4000.0	P	7/27/00	10:59	TJULY27A
	Magnesium	24.38	+/-500.00	B	6.00	500.00	P	7/27/00	10:59	TJULY27A
CCB2	Aluminum	24.9	+/-100.00	B	10.0	100.0	P	7/27/00	11:59	TJULY27A
	Arsenic	3.01	+/-5.00	B	3.00	5.00	P	7/27/00	11:59	TJULY27A
	Calcium	70.0	+/-500.00	U	70.0	500.0	P	7/27/00	11:59	TJULY27A
	Iron	22.5	+/-4000.00	B	20.0	4000.0	P	7/27/00	11:59	TJULY27A
	Magnesium	30.03	+/-500.00	B	6.00	500.00	P	7/27/00	11:59	TJULY27A
CCB3	Aluminum	29.5	+/-100.00	B	10.0	100.0	P	7/27/00	13:00	TJULY27A
	Arsenic	3.00	+/-5.00	U	3.00	5.00	P	7/27/00	13:00	TJULY27A
	Calcium	70.0	+/-500.00	U	70.0	500.0	P	7/27/00	13:00	TJULY27A
	Iron	22.9	+/-4000.00	B	20.0	4000.0	P	7/27/00	13:00	TJULY27A
	Magnesium	23.62	+/-500.00	B	6.00	500.00	P	7/27/00	13:00	TJULY27A
CCB4	Aluminum	22.7	+/-100.00	B	10.0	100.0	P	7/27/00	14:00	TJULY27A
	Arsenic	3.00	+/-5.00	U	3.00	5.00	P	7/27/00	14:00	TJULY27A
	Calcium	70.0	+/-500.00	U	70.0	500.0	P	7/27/00	14:00	TJULY27A
	Iron	20.0	+/-4000.00	U	20.0	4000.0	P	7/27/00	14:00	TJULY27A
	Magnesium	12.24	+/-500.00	B	6.00	500.00	P	7/27/00	14:00	TJULY27A



**METALS****- 3a -****INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY****Client:** N/A**SDG No.:** 7543**Contract:** N/A**Lab Code:** STL PEN**Case No.:** N/A**SAS No.:** N/A

Sample ID	Analyte	Result	Acceptance Limit	Conc Qual	MDL	RDL	M	Analysis Date	Analysis Time	Run
<b>CCB5</b>										
	Aluminum	31.9	+/-100.00	B	10.0	100.0	P	7/27/00	15:01	TJULY27A
	Arsenic	3.00	+/-5.00	U	3.00	5.00	P	7/27/00	15:01	TJULY27A
	Calcium	70.0	+/-500.00	U	70.0	500.0	P	7/27/00	15:01	TJULY27A
	Iron	25.9	+/-4000.00	B	20.0	4000.0	P	7/27/00	15:01	TJULY27A
	Magnesium	14.18	+/-500.00	B	6.00	500.00	P	7/27/00	15:01	TJULY27A
<b>CCB6</b>										
	Aluminum	75.7	+/-100.00	B	10.0	100.0	P	7/27/00	15:26	TJULY27A
	Arsenic	3.00	+/-5.00	U	3.00	5.00	P	7/27/00	15:26	TJULY27A
	Calcium	70.0	+/-500.00	U	70.0	500.0	P	7/27/00	15:26	TJULY27A
	Iron	38.2	+/-4000.00	B	20.0	4000.0	P	7/27/00	15:26	TJULY27A
	Magnesium	58.77	+/-500.00	B	6.00	500.00	P	7/27/00	15:26	TJULY27A

**METALS**  
**- 3b -**  
**PREPARATION BLANK SUMMARY**

**Client:** N/A**SDG No.:** 7543**Contract:** N/A**Lab Code:** STL PEN**Case No.:** N/A**SAS No.:** N/A

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Sample ID	Analyte	Result (mg/Kg)	Acceptance Limit	Conc Qual	MDL	RDL	M	Analysis Date	Analysis Time	Run
<b>PBSPS145</b>			<b>SOIL</b>							
	Arsenic	0.30	+/-0.50	U	0.30	0.50	P	7/27/00	14:16	TJULY27A

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## METALS

- 4 -

## INTERFERENCE CHECK SAMPLE

Client: N/ASDG No.: 7543Contract: N/ALab Code: STL PENCase No.: N/ASAS No.: N/AICS Source: HIGH PURITYInstrument TJA61E Trace  
ID:

Sample ID	Analyte	Result	True Value	% Recovery	Acceptance Window %Rec	Analysis Date	Analysis Time	Run Number
<b>ICS-A1</b>								
	Aluminum	519820.8	500000.0	104.0	80 - 120	7/27/00	10:39	TJULY27A
	Arsenic	4.2			80 - 120	7/27/00	10:39	TJULY27A
	Calcium	446720.1	500000.0	89.3	80 - 120	7/27/00	10:39	TJULY27A
	Iron	198550.5	200000.0	99.3	80 - 120	7/27/00	10:39	TJULY27A
	Magnesium	548513.8	500000.0	109.7	80 - 120	7/27/00	10:39	TJULY27A
<b>ICS-AB1</b>								
	Aluminum	532326.9	510000.0	104.4	80 - 120	7/27/00	10:44	TJULY27A
	Arsenic	1053.6	1000.0	105.4	80 - 120	7/27/00	10:44	TJULY27A
	Calcium	453604.6	510000.0	88.9	80 - 120	7/27/00	10:44	TJULY27A
	Iron	208174.0	210000.0	99.1	80 - 120	7/27/00	10:44	TJULY27A
	Magnesium	559165.4	510000.0	109.6	80 - 120	7/27/00	10:44	TJULY27A
<b>ICS-A2</b>								
	Aluminum	520713.8	500000.0	104.1	80 - 120	7/27/00	15:11	TJULY27A
	Arsenic	2.1			80 - 120	7/27/00	15:11	TJULY27A
	Calcium	456279.5	500000.0	91.3	80 - 120	7/27/00	15:11	TJULY27A
	Iron	202000.7	200000.0	101.0	80 - 120	7/27/00	15:11	TJULY27A
	Magnesium	561779.7	500000.0	112.4	80 - 120	7/27/00	15:11	TJULY27A
<b>ICS-AB2</b>								
	Aluminum	535027.4	510000.0	104.9	80 - 120	7/27/00	15:16	TJULY27A
	Arsenic	1074.4	1000.0	107.4	80 - 120	7/27/00	15:16	TJULY27A
	Calcium	467412.5	510000.0	91.6	80 - 120	7/27/00	15:16	TJULY27A
	Iron	213489.6	210000.0	101.7	80 - 120	7/27/00	15:16	TJULY27A
	Magnesium	576964.5	510000.0	113.1	80 - 120	7/27/00	15:16	TJULY27A

## METALS

- 5a -

## MATRIX SPIKE SUMMARY

Client: N/A Level:                      SDG No.: 7543  
Contract: N/A Lab Code: STL PEN Case No.: N/A SAS No.: N/A  
Matrix: SOIL Sample ID: C007543-1 Client ID: 20000724-SITE 15-B-01S  
Percent Solids for Sample: 97.50 Spiked ID: C007543-1S Percent Solids for Spike Sample: 97.50

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Arsenic	mg/Kg	75 - 125	89.79		1.36		94.1	94.0		P

## METALS

- 5a -

## MATRIX SPIKE DUPLICATE SUMMARY

Client: N/A Level:                      SDG No.: 7543

Contract: N/A Lab Code: STL PEN Case No.: N/A SAS No.: N/A

Matrix: SOIL Sample ID: C007543-1 Client ID: 20000724-SITE 15-B-01SD

Percent Solids for Sample: 97.50 Spiked ID: C007543-1SD Percent Solids for Spike Sample: 97.50

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Arsenic	mg/Kg	75 - 125	92.50		1.36		97.7	93.3		P

METALS

- 5b -

POST DIGEST SPIKE SUMMARY

Client: N/A

SDG No.: 7543

Contract: N/A

Lab Code: STL PEN

Case No.: N/A

SAS No.: N/A

Matrix: SOIL

Level:

Client ID: 20000724-SITE 15-B-01A

Sample ID: C007543-1

Spiked ID: C007543-1A

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Arsenic	ug/L	75 - 125	936.41		14.14		1000.0	92.2		P

## METALS

- 6 -

## DUPLICATE SAMPLE SUMMARY

**Client:** N/A **Level:**                      **SDG No.:** 7543  
**Contract:** N/A **Lab Code:** STL PEN **Case No.:** N/A **SAS No.:** N/A  
**Matrix:** SOIL **Sample ID:** C007543-1S **Client ID:** 20000724-SITE 15-B-01SD  
**Percent Solids for Sample:** 97.50 **Duplicate ID:** C007543-1SD **Percent Solids for Duplicate:** 97.50

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Arsenic	mg/Kg		89.79		92.50		3.0		P

## METALS

- 7 -

## LABORATORY CONTROL SAMPLE SUMMARY

Client: N/ASDG No.: 7543Contract: N/ALab Code: STL PENCase No.: N/ASAS No.: N/A

Aqueous LCS Source:

Solid LCS Source: ERA

Sample ID	Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
LCSSPS145	Arsenic	mg/Kg	75.2	76.5		101.7	55.9 - 94.5	P



## METALS

- 9 -

## SERIAL DILUTION SAMPLE SUMMARY

**Client:** N/A

SDG No.: 7543

**Contract:** N/A

**Lab Code:** STL PEN

**Case No.:** N/A

**SAS No.:** N/A

**Matrix:** WATER **Level:** \_\_\_\_\_

**Client ID:** 20000724-SITE 15-B-01L

**Sample ID: C007543-1**

**Serial Dilution ID: C007543-1L**

Analyte	Initial Result	C	Serial Result	C	% Difference	Qual	Acceptance Limits	M
Arsenic	14.14		15.00	U	100.0		10.00 %	P

---

## METHOD DETECTION LIMITS

**SAS No.:** N/A

Analyte	Wave- length (nm)	MDL ug/L	RDL ug/L
TJA61E Trace		Date: 1/27/00	
Aluminum	308.2	10.0	100.0
Arsenic	189.0	3.00	5.00
Calcium	317.9	70.0	500.0
Iron	271.4	20.0	4000.0
Magnesium	279.0	6.00	500.0

## METALS

- 11 -

## ICP INTERELEMENT CORRECTION FACTORS

Client: N/ASDG No.: 7543Contract: N/A Lab Code: STL PENCase No.: N/A SAS No.: N/AInstrument ID: TJA61E TraceDate: 6/19/00

Interelement Correction Factors (apparent ppb analyte/ppm interferent )

Analyte	Wave- Length (nm)	ICP Interelement Correction Factors For:				
		Al	Ca	Fe	Mg	Cd
Aluminum	308.21	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.84	0.0000000	0.0000000	0.0000430	0.0000000	0.0000000
Arsenic	193.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	455.40	0.0000000	0.0000000	0.0000030	0.0000000	0.0000000
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Boron	249.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	228.80	0.0000000	0.0000000	0.0000650	0.0000000	0.0000000
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.71	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.61	0.0000000	0.0000000	0.0000140	0.0000000	0.0004470
Copper	324.75	0.0000000	0.0000000	-0.0000300	0.0000000	0.0000000
Iron	259.90	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Iron	271.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.351/1	0.0005560	-0.0000300	0.0000520	0.0000000	0.0000000
Lead	220.351/2	-0.0002350	0.0000180	0.0000670	0.0000000	0.0000000
Magnesium	279.07	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000000	0.0000080	0.0000140	0.0000000
Molybdenum	202.00	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.0000000	0.0000000	0.0000160	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	193.021/1	-0.0000330	0.0000000	0.0000870	0.0000000	0.0000000
Selenium	193.021/2	0.0000170	0.0000000	-0.0001890	0.0000000	0.0000000
Silver	328.00	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	588.99	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Strontium	421.55	0.0000000	0.0000340	0.0000000	0.0000000	0.0000000
Thallium	190.86	-0.0000190	0.0000000	0.0002900	0.0000000	0.0000000
Tin	189.98	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	334.90	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.0000000	0.0000000	-0.0002840	0.0000000	0.0000000
Zinc	213.85	0.0000000	0.0000000	0.0000000	0.0000440	0.0000000

## METALS

- 11 -

## ICP INTERELEMENT CORRECTION FACTORS

Client: N/ASDG No.: 7543Contract: N/A Lab Code: STL PENCase No.: N/A SAS No.: N/AInstrument ID: TJA61E TraceDate: 6/19/00

Interelement Correction Factors (apparent ppb analyte/ppm interferent )

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For:				
		Co	Cr	Mn	Mo	Ni
Aluminum	308.21	0.0000000	0.0000000	0.0000000	0.0033650	0.0000000
Antimony	206.84	0.0000000	-0.0075390	0.0000000	0.0000000	0.0000000
Arsenic	193.60	0.0000000	-0.0064820	0.0000000	-0.0033180	0.0000000
Barium	455.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Boron	249.60	0.0000000	0.0002160	0.0000000	0.0000000	0.0000000
Cadmium	228.80	0.0000000	0.0000000	0.0000000	-0.0000600	0.0000000
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.71	0.0000000	0.0000000	0.0002780	-0.0003610	0.0000000
Cobalt	228.61	0.0000000	0.0000000	0.0000000	-0.0013130	0.0001110
Copper	324.75	0.0000000	-0.0001140	0.0000000	0.0002060	0.0000000
Iron	259.90	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Iron	271.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.351/1	0.0000000	0.0000000	0.0000000	-0.0006350	0.0001050
Lead	220.351/2	0.0000000	0.0000000	0.0000000	-0.0008980	0.0003060
Magnesium	279.07	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Molybdenum	202.00	0.0000000	0.0000410	0.0000000	0.0000000	0.0000000
Nickel	231.60	-0.0008980	0.0000000	0.0001170	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	193.021/1	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	193.021/2	0.0000000	0.0000000	0.0005340	0.0000000	0.0000000
Silver	328.00	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	588.99	0.0000000	-0.0126670	0.0000000	0.0000000	0.0000000
Strontium	421.55	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.86	0.0014260	0.0002080	-0.0004580	0.0000000	0.0000000
Tin	189.98	0.0000000	-0.0000890	0.0000000	0.0000000	0.0000000
Titanium	334.90	0.0000000	0.0002140	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.0000000	-0.0012560	0.0000000	-0.0001180	0.0000000
Zinc	213.85	0.0000000	-0.0007680	0.0000000	0.0002030	0.0000000

## METALS

- 11 -

## ICP INTERELEMENT CORRECTION FACTORS

Client: N/ASDG No.: 7543Contract: N/A Lab Code: STL PENCase No.: N/A SAS No.: N/AInstrument ID: TJA61E TraceDate: 6/19/00

Interelement Correction Factors (apparent ppb analyte/ppm interferent )

Analyte	Wave- Length (nm)	ICP Interelement Correction Factors For:				
		Sb	Ti	Tl	V	Zn
Aluminum	308.21	0.0000000	0.0000000	0.0000000	0.0218830	0.0000000
Antimony	206.84	0.0000000	-0.0025860	0.0000000	0.0000000	0.0000000
Arsenic	193.60	0.0000000	0.0000000	0.0000000	-0.0000360	0.0000000
Barium	455.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0001820	0.0000000
Boron	249.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	228.80	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.71	0.0000000	0.0000000	0.0000000	-0.0000740	0.0000000
Cobalt	228.61	0.0000000	0.0021650	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Iron	259.90	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Iron	271.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.351/1	0.0000000	-0.0002040	0.0000000	-0.0001380	0.0000000
Lead	220.351/2	0.0003950	-0.0004050	0.0000000	0.0000000	0.0000000
Magnesium	279.07	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Molybdenum	202.00	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.0000000	0.0000000	0.0002210	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	193.021/1	0.0000000	0.0000000	0.0000000	0.0004580	0.0000000
Selenium	193.021/2	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.00	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	588.99	0.0000000	-0.1341330	0.0000000	0.0000000	0.0540000
Strontium	421.55	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.86	0.0000000	-0.0014490	0.0000000	0.0000000	0.0000000
Tin	189.98	0.0000000	0.0004580	0.0000000	0.0000000	0.0000000
Titanium	334.90	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.0000000	0.0005900	0.0000000	0.0000000	0.0000000
Zinc	213.85	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

**METALS**  
**- 12 -**  
**LINEAR RANGES**

**Client:** N/A**SDG No.:** 7543**Contract:** N/A**Lab Code:** STL PEN**Case No.:** N/A**SAS No.:** N/A**Instrument ID:** TJA61E Trace**Date:** 6/6/00

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<u>Analyte</u>	<u>Integration Time (sec)</u>	<u>LDR ug/L</u>
Aluminum	15.00	500000
Arsenic	15.00	50000
Calcium	15.00	400000
Iron	15.00	500000
Magnesium	15.00	500000

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## METALS

- 13 -

## SAMPLE PREPARATION SUMMARY

Client: N/ASDG No.: 7543Contract: N/A Lab Code: STL PENMethod: PCase No.: N/ASAS No.: N/A

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Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(g)	Final Sample Volume (mL)	Percent Solids
Batch Number: PS145							
PBSPS145	PBSPS145	MB	SOIL	7/26/00	1.00	100	100.00
LCSSPS145	LCSSPS145	LCS	SOIL	7/26/00	1.05	100	100.00
C007543-1	20000724-SITE 15-B-01	SAM	SOIL	7/26/00	1.07	100	97.50
C007543-1S	20000724-SITE 15-B-01S	MS	SOIL	7/26/00	1.09	100	97.50
C007543-1SD	20000724-SITE 15-B-01SD	MSD	SOIL	7/26/00	1.05	100	97.50
C007543-2	20000724-SITE 15-B-02	SAM	SOIL	7/26/00	1.11	100	97.10

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METALS  
- 14 -  
ANALYSIS RUN LOG

Client: N/A Contract: N/A

Lab Code STL PEN Case No.: N/A SAS No.: N/A SDG 7543

Instrument ID Number: TJA61E Trace Method: P Run Number: TJULY27A

Start Date: 7/27/00 End Date: 7/27/00

Sample No.	D/F	Time	% R	Analytes																							
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K E	S E	A G	N A	T L	V L	Z N	C N
CAL BLK	1.00	09:58		X		X				X				X		X											
STD 1	1.00	10:03		X		X				X				X		X											
STD 1	1.00	10:08		X		X				X				X		X											
ICV1	1.00	10:13		X		X				X				X		X											
ICB1	1.00	10:18		X		X				X				X		X											
CRDL1	1.00	10:23		X		X				X				X		X											
AL500	1.00	10:28		X		X				X				X		X											
FE500	1.00	10:34		X		X				X				X		X											
ICS-A1	1.00	10:39		X		X				X				X		X											
ICS-AB1	1.00	10:44		X		X				X				X		X											
CCV1	1.00	10:53		X		X				X				X		X											
CCB1	1.00	10:59		X		X				X				X		X											
ZZZZZZ	1.00	11:04																									
ZZZZZZ	1.00	11:09																									
ZZZZZZ	1.00	11:14																									
ZZZZZZ	5.00	11:19																									
ZZZZZZ	1.00	11:24																									
ZZZZZZ	1.00	11:29																									
ZZZZZZ	1.00	11:34																									
ZZZZZZ	1.00	11:39																									
ZZZZZZ	1.00	11:44																									
ZZZZZZ	1.00	11:49																									
CCV2	1.00	11:54		X		X				X				X		X											
CCB2	1.00	11:59		X		X				X				X		X											
ZZZZZZ	1.00	12:04																									
ZZZZZZ	1.00	12:09																									
ZZZZZZ	1.00	12:14																									
ZZZZZZ	1.00	12:19																									
ZZZZZZ	1.00	12:24																									
ZZZZZZ	1.00	12:29																									
ZZZZZZ	5.00	12:35																									
ZZZZZZ	1.00	12:40																									
ZZZZZZ	1.00	12:45																									

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14



METALS  
- 14 -  
ANALYSIS RUN LOG

Client: N/A Contract: N/A

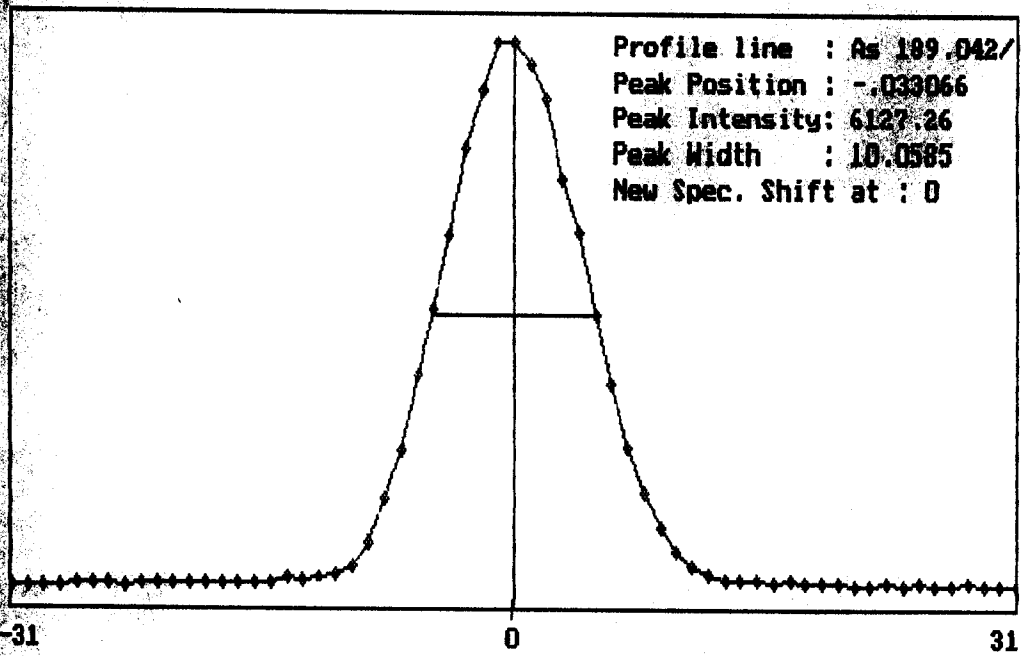
Lab Code STL PEN Case No.: N/A SAS No.: N/A SDG 7543

Instrument ID Number: TJA61E Trace Method: P Run Number: TJULY27A

Start Date: 7/27/00 End Date: 7/27/00

Sample No.	D/F	Time	% R	Analytes																						
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K S	S E	A G	N A	T L	V L	Z N
ZZZZZZ	1.00	12:50																								
CCV3	1.00	12:55		X		X				X				X		X										
CCB3	1.00	13:00		X		X				X				X		X										
ZZZZZZ	1.00	13:05																								
ZZZZZZ	1.00	13:10																								
ZZZZZZ	1.00	13:15																								
ZZZZZZ	1.00	13:20																								
ZZZZZZ	1.00	13:25																								
ZZZZZZ	1.00	13:30																								
ZZZZZZ	1.00	13:35																								
ZZZZZZ	1.00	13:40																								
ZZZZZZ	1.00	13:45																								
ZZZZZZ	1.00	13:50																								
CCV4	1.00	13:55		X		X				X				X		X										
CCB4	1.00	14:00		X		X				X				X		X										
ZZZZZZ	1.00	14:06																								
C007543-3	1.00	14:11				X																				
PBSPS145	1.00	14:16				X																				
LCSSPS145	1.00	14:21				X																				
C007543-1	1.00	14:26				X																				
C007543-1L	5.00	14:31				X																				
C007543-1S	1.00	14:36				X																				
C007543-1SD	1.00	14:41				X																				
C007543-1A	1.00	14:46				X																				
C007543-2	1.00	14:51				X																				
CCV5	1.00	14:56		X		X				X				X		X										
CCB5	1.00	15:01		X		X				X				X		X										
CRDL2	1.00	15:06		X		X				X				X		X										
ICS-A2	1.00	15:11		X		X				X				X		X										
ICS-AB2	1.00	15:16		X		X				X				X		X										
CCV6	1.00	15:21		X		X				X				X		X										
CCB6	1.00	15:26		X		X				X				X		X										

\* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14



*C* 7.28.00

60102007 Standard: CAL BLK  
 Date: 07/27/00 09:58:35

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Avg	.00005	.04961	-.00739	.00156	.00035	.02995	.01071
SD	.00064	.00036	.00279	.00206	.00021	.00009	.00024
%RSD	1249.8	.72236	37.792	132.26	60.848	.29251	2.2843
#1	.00050	.04986	-.00937	.00010	.00050	.03002	.01088
#2	-.00040	.04935	-.00542	.00301	.00020	.02989	.01053
Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Avg	.00066	-.00120	-.00075	.02166	-.00317	.00638	-.20447
SD	.00277	.00085	.00106	.00013	.00008	.00009	.01240
%RSD	421.94	70.491	141.42	.62063	2.5372	1.4060	6.0629
#1	.00262	-.00060	.00000	.02176	-.00322	.00645	-.21324
#2	-.00130	-.00181	-.00150	.02157	-.00311	.00632	-.19570
Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Sb2068	Sn1899
Avg	.00076	.00045	-.00043	.00207	-.00643	.00734	-.00487
SD	.00078	.00007	.00018	.00477	.00325	.00130	.00162
%RSD	103.84	16.002	41.327	230.62	50.568	17.723	33.257
#1	.00131	.00050	-.00030	.00544	-.00413	.00826	-.00373
#2	.00020	.00040	-.00055	-.00130	-.00873	.00642	-.00602
Elem	Sr4215	Ti3349	Tl1908	V_2924	Zn2062	2203/1	2203/2
Avg	.00121	-.01226	-.01573	.00020	.00050	.02383	-.00109
SD	.00043	.00046	.00069	.00014	.00029	.03099	.00924
%RSD	35.629	3.7699	4.3587	70.491	56.814	130.06	845.72
#1	.00151	-.01259	-.01622	.00010	.00071	.00191	.00544
#2	.00090	-.01194	-.01525	.00030	.00030	.04574	-.00762
Elem	1960/1	1960/2	Li6707				
Avg	-.02668	.02211	.00060				
SD	.00241	.00249	.00057				
%RSD	9.0303	11.280	94.443				
#1	-.02498	.02035	.00101				
#2	-.02839	.02387	.00020				

	1	2	3	4	5	6	7
Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Y	--	--	--	--	--	--	--
len 371.030	--	--	--	--	--	--	--
9949	--	--	--	--	--	--	--
29.10048	--	--	--	--	--	--	--
.2925102	--	--	--	--	--	--	--
9928	--	--	--	--	--	--	--
9969	--	--	--	--	--	--	--

60102007 Standard: STD 1  
Date: 07/27/00 10:03:40

	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
	2.4691	5.1568	7.2815	4.4373	9.6253	11.178	6.2146
	.0031	.0030	.0067	.0077	.0090	.009	.0112
	.12645	.05759	.09187	.17297	.09300	.07715	.18013
	2.4713	5.1589	7.2862	4.4427	9.6316	11.184	6.2225
	2.4669	5.1547	7.2767	4.4319	9.6190	11.172	6.2067
	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
	11.372	5.1602	5.5016	8.8033	2.6770	48.123	40.436
	.018	.0101	.0110	.0043	.0003	.057	.021
	.16034	.19559	.19906	.04939	.01086	.11764	.05225
	11.385	5.1673	5.5094	8.8064	2.6768	48.163	40.421
	11.360	5.1531	5.4939	8.8002	2.6772	48.083	40.451
Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Sb2068	Sn1899
Avg	5.4719	6.4015	3.4330	.64700	5.1173	3.3107	3.5222
SDev	.0038	.0063	.0161	.00036	.0059	.0012	.0041
%RSD	.07030	.09793	.47028	.05572	.11539	.03715	.11537
#1	5.4746	6.4059	3.4216	.64725	5.1215	3.3099	3.5193
#2	5.4692	6.3971	3.4444	.64674	5.1132	3.3116	3.5251
Elem	Sr4215	Ti3349	Ti1908	V_2924	Zn2062	2203/1	2203/2
Avg	48.127	36.264	5.3015	2.2703	3.1491	25.005	14.747
SDev	.010	.035	.0091	.0019	.0057	.095	.008
%RSD	.01988	.09611	.17210	.08263	.18146	.37842	.05733
#1	48.133	36.288	5.3079	2.2717	3.1531	25.072	14.753
#2	48.120	36.239	5.2950	2.2690	3.1450	24.939	14.741
Elem	1960/1	1960/2	Li6707				
Avg	4.7626	5.2163	23.271				
SDev	.0049	.0089	.080				
%RSD	.10309	.17103	.34545				
#1	4.7660	5.2100	23.328				
#2	4.7591	5.2226	23.214				

	1	2	3	4	5	6	7
Counts	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Y	Y	---	---	---	---	---	---
371.030	371.030	---	---	---	---	---	---
9726	9726	---	---	---	---	---	---
6.602886	6.602886	---	---	---	---	---	---
.0678914	.0678914	---	---	---	---	---	---
9730	9730	---	---	---	---	---	---
9721	9721	---	---	---	---	---	---

Method: 60102007 Sample Name: STD 1

Operator: GSP

Time: 07/27/00 10:08:45

Event:

CONC Corr. Factor: 1

	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	.99930	19.965	2.0145	2.0002	1.9920	1.0085	20.166
	.00049	.017	.0000	.0001	.0013	.0008	.020
	.04907	.08356	.00020	.00350	.06444	.08409	.09728
	.99965	19.976	2.0145	2.0002	1.9929	1.0091	20.180
	.99896	19.953	2.0145	2.0003	1.9911	1.0079	20.152
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1.0000	20.000	2.0000	2.0000	2.0000	1.0000	20.000
Range	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000
Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0107	2.0125	2.0103	1.9939	20.137	20.096	19.917
SDev	.0008	.0013	.0018	.0012	.003	.010	.037
%RSD	.07757	.06276	.08703	.06097	.01446	.04806	.18350
#1	1.0112	2.0134	2.0115	1.9947	20.139	20.103	19.943
#2	1.0101	2.0116	2.0090	1.9930	20.135	20.090	19.891
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1.0000	2.0000	2.0000	2.0000	20.000	20.000	20.000
Range	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000
Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.117	2.0087	2.0129	19.872	2.0139	2.0159	2.0113
SDev	.021	.0012	.0058	.100	.0009	.0047	.0035
%RSD	.10275	.05838	.28842	.50224	.04332	.23554	.17339
#1	20.132	2.0096	2.0088	19.943	2.0145	2.0192	2.0137
#2	20.102	2.0079	2.0170	19.802	2.0133	2.0125	2.0088
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	20.000	2.0000	2.0000	20.000	2.0000	2.0000	2.0000
Range	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000
Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.9975	2.0184	1.9995	2.0016	2.0022	2.0058	2.0310
SDev	.0037	.0016	.0034	.0022	.0059	.0001	.0034
%RSD	.18407	.07894	.16865	.10979	.29464	.00270	.16499
#1	1.9949	2.0172	2.0019	2.0031	2.0063	2.0059	2.0333
#2	2.0001	2.0195	1.9971	2.0000	1.9980	2.0058	2.0286
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	2.0000	2.0000	2.0000	2.0000	2.0000	2.0000	2.0000
Range	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000
Elem	2203/1	2203/2	1960/1	1960/2	Li6707		

units	ppm	ppm	ppm	ppm	ppm
ave	2.0087	2.0194	2.0200	2.0069	2.0007
std	.0048	.0047	.0072	.0016	.0014
std	.24091	.23288	.35844	.08042	.06998
	2.0121	2.0227	2.0251	2.0081	1.9997
	2.0053	2.0161	2.0148	2.0058	2.0017
	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass
					2.0000
					5.0000

Std	1	2	3	4	5	6	7
Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Y	---	---	---	---	---	---	---
371.030	---	---	---	---	---	---	---
9835	---	---	---	---	---	---	---
11.13072	---	---	---	---	---	---	---
.1131794	---	---	---	---	---	---	---
9827	---	---	---	---	---	---	---
9842	---	---	---	---	---	---	---



Method: 60102007 Sample Name: ICV/CCV

Operator: GSP

In Time: 07/27/00 10:13:48

Element:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.49234	9.9326	.99743	1.0019	.99834	.50812	10.151
SDev	.00119	.0040	.00974	.0041	.00106	.00061	.014
%RSD	.24189	.04009	.97649	.40821	.10588	.11923	.14039
#1	.49150	9.9354	.99054	.99899	.99759	.50769	10.141
#2	.49319	9.9298	1.0043	1.0048	.99909	.50854	10.161

Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.50000	10.000	1.0000	1.0000	1.0000	.50000	10.000
Range	10.000	10.000	10.000	10.000	10.000	10.000	10.000

Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.51039	1.0092	1.0072	.99364	10.117	10.167	9.6781
SDev	.00039	.0009	.0024	.00070	.021	.015	.0095
%RSD	.07575	.09111	.23465	.07067	.20876	.14460	.09859
#1	.51011	1.0098	1.0055	.99314	10.102	10.157	9.6713
#2	.51066	1.0085	1.0089	.99413	10.132	10.177	9.6848

Errors	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass
Value	.50000	1.0000	1.0000	1.0000		10.000	10.000
Range	10.000	10.000	10.000	10.000		10.000	10.000

Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	10.032	1.0090	1.0023	9.5805	1.0144	1.0111	1.0010
SDev	.011	.0014	.0049	.0213	.0000	.0023	.0044
%RSD	.10595	.13402	.48731	.22217	.00191	.22556	.44075
#1	10.024	1.0080	.99887	9.5955	1.0144	1.0095	.99788
#2	10.039	1.0099	1.0058	9.5654	1.0144	1.0128	1.0041

Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10.000	1.0000	1.0000	10.000	1.0000	1.0000	1.0000
Range	10.000	10.000	10.000	10.000	10.000	10.000	10.000

Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.97061	1.0092	1.0088	.99178	1.0013	1.0043	1.0275
SDev	.00904	.0020	.0017	.00153	.0014	.0011	.0028
%RSD	.93174	.19956	.16638	.15424	.13822	.11133	.27189
#1	.96422	1.0078	1.0076	.99069	1.0004	1.0035	1.0255
#2	.97701	1.0107	1.0100	.99286	1.0023	1.0050	1.0295

Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Range	10.000	10.000	10.000	10.000	10.000	10.000	10.000

Elem	2203/1	2203/2	1960/1	1960/2	Li6707
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Units	ppm	ppm	ppm	ppm	ppm
Avg	1.0064	1.0135	.99953	1.0017	.98157
SD	.0030	.0019	.00267	.0053	.00202
SRSD	.29814	.18958	.26725	.52718	.20631

#1	1.0043	1.0121	.99764	.99799	.98300
#2	1.0085	1.0149	1.0014	1.0055	.98014

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass
Value					1.0000
Range					10.000

IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Avlen	371.030	--	--	--	--	--	--
Age	9950	--	--	--	--	--	--
Dev	13.15882	--	--	--	--	--	--
SRSD	.1322511	--	--	--	--	--	--
	9941	--	--	--	--	--	--
	9959	--	--	--	--	--	--

Method: 60102007

Sample Name: ICB/CCB

Operator: GSP

Run Time: 07/27/00 10:18:51

Element:

Code: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00018	.01121	.00090	.00301	.00077	.00038	.00983
SDev	.00006	.00055	.00041	.00075	.00010	.00005	.00211
%RSD	31.060	4.9144	45.558	25.021	12.936	13.635	21.434

#1	.00014	.01082	.00120	.00248	.00070	.00034	.00834
#2	.00022	.01160	.00061	.00354	.00084	.00041	.01132

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.00500	.10000	.00500	.10000	.01000	.00300	.50000
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000

Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00053	.00121	.00126	.00075	.01725	.00807	.00694
SDev	.00010	.00033	.00067	.00035	.00267	.00131	.00713
%RSD	18.276	27.177	53.026	46.550	15.506	16.278	102.72

#1	.00046	.00097	.00079	.00050	.01536	.00714	.00190
#2	.00060	.00144	.00173	.00100	.01915	.00900	.01198

Errors	LC Pass	LC Pass	LC Pass	LC Pass	NOCHECK	LC Pass	LC Pass
High	.00500	.01000	.00500	.01000		.10000	1.0000
Low	-.00500	-.01000	-.00500	-.01000		-.10000	-1.0000

Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm		
Avg	.01339	.00077	.00164	.02290	.00153	.00180	-.00113
SDev	.00201	.00022	.00039	.03456	.00012	.00007	.00103
%RSD	15.018	28.406	23.654	150.88	7.5310	4.0057	90.718

#1	.01197	.00061	.00136	-.00153	.00145	.00175	-.00186
#2	.01481	.00092	.00191	.04734	.00161	.00185	-.00041

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.50000	.01000	.01000	1.0000	.00500	.00500	.01000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000

Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00545	.00131	.00079	.00101	-.00049	.00115	.00070
SDev	.00152	.00036	.00013	.00006	.00054	.00000	.00018
%RSD	27.912	27.177	16.274	5.6605	109.63	.32864	25.201

#1	.00653	.00156	.00070	.00097	-.00011	.00115	.00058
#2	.00437	.00106	.00089	.00105	-.00087	.00115	.00083

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.05000	.01000	.00500	.00500	.01000	.01000	.02000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000

Elem	2203/1	2203/2	1960/1	1960/2	Li6707
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Units	ppm	ppm	ppm	ppm	ppm
Avg	-.00009	.00274	.00183	-.00261	.00089
SDev	.00120	.00049	.00111	.00099	.00000
%RSD	1364.4	17.856	60.438	37.773	.43259
#1	-.00094	.00309	.00105	-.00331	.00089
#2	.00076	.00240	.00261	-.00191	.00089
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	LC Pass
High					.05000
Low					-.05000

IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	---	---	---	---	---	---
Wavlen	371.030	---	---	---	---	---	---
Avg	9958	---	---	---	---	---	---
SDev	40.70215	---	---	---	---	---	---
%RSD	.4087213	---	---	---	---	---	---
#1	9930	---	---	---	---	---	---
#2	9987	---	---	---	---	---	---

60102007 Sample Name: CRI  
 Date: 07/27/00 10:23:55

Operator: GSP

QC Pass  
 CONC Corr. Factor: 1

Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179	
ppm	ppm	ppm	ppm	ppm	ppm	ppm	
.00582	.11178	.00650	.10048	.01069	.00533	1.0570	
.00012	.00118	.00097	.00042	.00011	.00007	.0127	
2.0164	1.0522	14.988	.41994	1.0273	1.2963	1.2059	
#1	.00590	.11262	.00719	.10078	.01077	.00538	1.0660
#2	.00573	.11095	.00581	.10019	.01061	.00528	1.0479
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.00500	.10000	.00500	.10000	.01000	.00500	1.0000
Range	50.000	50.000	50.000	50.000	50.000	50.000	50.000
Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00545	.01132	.00670	.01075	.11276	.11187	.95694
SDev	.00016	.00053	.00001	.00025	.00463	.00141	.00182
%RSD	3.0034	4.6477	.17820	2.2847	4.1075	1.2564	.18988
#1	.00533	.01169	.00669	.01058	.11604	.11286	.95565
#2	.00556	.01095	.00671	.01093	.10949	.11088	.95822
Errors	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass
Value	.00500	.01000	.00500	.01000		.10000	1.0000
Range	50.000	50.000	50.000	50.000		50.000	50.000
Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm		
Avge	.51557	.01075	.01060	1.0301	.00636	.00397	.00873
SDev	.00685	.00011	.00058	.0961	.00024	.00111	.00058
%RSD	1.3290	1.0334	5.5008	9.3325	3.7534	28.015	6.6394
#1	.52042	.01083	.01101	.96210	.00620	.00476	.00914
#2	.51073	.01067	.01019	1.0981	.00653	.00319	.00832
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.50000	.01000	.01000	1.0000	.00500	.00500	.01000
Range	50.000	50.000	50.000	50.000	50.000	50.000	50.000
Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.05428	.00597	.00552	.00559	.01077	.01092	.02184
SDev	.00141	.00108	.00002	.00012	.00257	.00026	.00072
%RSD	2.5944	18.154	.27764	2.0921	23.890	2.3920	3.3135
#1	.05527	.00673	.00553	.00567	.01259	.01073	.02235
#2	.05328	.00520	.00551	.00551	.00895	.01110	.02133
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.05000	.00500	.00500	.00500	.01000	.01000	.02000
Range	50.000	50.000	50.000	50.000	50.000	50.000	50.000
Elem	2203/1	2203/2	1960/1	1960/2	Li6707		

ppm	ppm	ppm	ppm	ppm	ppm
.00482	.00355	.00984	.00817	.04902	
.00515	.00424	.00261	.00217	.00035	
106.84	119.22	26.485	26.570	.72167	
.00118	.00655	.00800	.00970	.04927	
.00845	.00056	.01169	.00663	.04877	

NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass
				.05000
				50.000

Std	1	2	3	4	5	6	7
Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Y	---	---	---	---	---	---	---
371.030	---	---	---	---	---	---	---
9924	---	---	---	---	---	---	---
101.2613	---	---	---	---	---	---	---
1.020416	---	---	---	---	---	---	---
9852	---	---	---	---	---	---	---
9995	---	---	---	---	---	---	---

Method: 60102007 Sample Name: AL500

Operator: GSP

Run Time: 07/27/00 10:28:59

Comment:

Code: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00000	491.07	.00044	.00465	.00069	.00057	.01490
SDev	.00009	.47	.00113	.00128	.00003	.00000	.00006
%RSD	15573.	.09613	256.00	27.495	4.5924	.65165	.38536

#1	-.00006	490.74	.00124	.00375	.00067	.00057	.01486
#2	.00006	491.41	-.00036	.00555	.00071	.00057	.01494

Errors	NOCHECK	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value		500.00					
Range		250.00					

Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00029	-.00017	.00056	.00091	.00797	.00359	.01556
SDev	.00006	.00014	.00035	.00030	.01328	.00001	.00637
%RSD	21.090	85.706	62.708	32.273	166.65	.20329	40.928

#1	-.00024	-.00027	.00031	.00070	-.00142	.00358	.01105
#2	-.00033	-.00007	.00081	.00112	.01736	.00359	.02006

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00319	.00097	-.00049	-.01993	.00095	-.00154	-.00383
SDev	.00136	.00005	.00087	.08446	.00029	.00077	.00197
%RSD	42.760	4.8845	178.24	423.87	30.267	50.212	51.494

#1	.00223	.00094	.00013	-.07965	.00075	-.00099	-.00522
#2	.00415	.00101	-.00110	.03980	.00115	-.00209	-.00243

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Sb2068	Sn1899	Sr4215	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00237	.00190	.00018	.00052	.00418	.00079	.00138
SDev	.00405	.00139	.00002	.00000	.00044	.00046	.00023
%RSD	171.00	73.213	12.253	.84246	10.527	58.097	16.900

#1	-.00050	.00288	.00016	.00052	.00387	.00047	.00155
#2	.00524	.00092	.00019	.00051	.00449	.00112	.00122

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	2203/1	2203/2	1960/1	1960/2	Li6707
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Units	ppm	ppm	ppm	ppm	ppm		
Avge	Q.00341	Q-.00401	Q-.00910	-.00120	.00023		
SDev	.00105	.00064	.00136	.00363	.00005		
%RSD	30.845	15.836	14.960	303.49	19.365		
#1	Q.00415	Q-.00356	Q-.00813	-.00377	.00020		
#2	.00267	Q-.00446	Q-.01006	.00137	.00026		
Errors	QC Fail	QC Fail	QC Fail	QC Pass	NOCHECK		
Value	.00000	.00000	.00000	.00000			
Range	.00300	.00300	.00500	.00500			
IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Avlen	371.030	--	--	--	--	--	--
Avge	9525	--	--	--	--	--	--
SDev	11.13072	--	--	--	--	--	--
%RSD	.1168609	--	--	--	--	--	--
#1	9533	--	--	--	--	--	--
#2	9517	--	--	--	--	--	--



Method: 60102007 Sample Name: FE500

Operator: GSP

Run Time: 07/27/00 10:34:12

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00072	.22204	Q.00309	.00380	-.00005	.00043	.00467
SDev	.00080	.02538	.00165	.00067	.00003	.00002	.00068
%RSD	111.39	11.428	53.544	17.668	50.738	3.7928	14.676

#1	.00129	.23999	Q.00425	.00332	-.00003	.00044	.00515
#2	.00015	.20410	.00192	.00427	-.00007	.00041	.00419

Errors	NOCHECK	NOCHECK	QC Fail	NOCHECK	NOCHECK	NOCHECK	QC Pass
Value			.00000				.00000
Range			.00300				.10000

Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	Q.00241	-.00029	.00135	.00004	531.33	379.45	.02148
SDev	.00022	.00016	.00036	.00027	1.73	.35	.00121
%RSD	9.1819	55.216	26.875	660.30	.32540	.09274	5.6196

#1	Q.00257	-.00041	.00160	.00023	530.11	379.20	.02062
#2	Q.00225	-.00018	.00109	-.00015	532.55	379.70	.02233

Errors	QC Fail	QC Pass	NOCHECK	QC Pass	QC Pass	NOCHECK	NOCHECK
Value	.00000	.00000		.00000	500.00		
Range	.00050	.00500		.00500	250.00		

Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.12611	-.00008	-.00111	.15083	.00106	.00280	-.00082
SDev	.00286	.00000	.00033	.06591	.00055	.00114	.00294
%RSD	2.2712	3.6983	29.488	43.698	52.048	40.541	360.10

#1	-.12813	-.00008	-.00088	.19744	.00145	.00200	-.00290
#2	-.12408	-.00008	-.00134	.10423	.00067	.00361	.00126

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Sb2068	Sn1899	Sr4215	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00021	.00584	.00008	.00008	.00258	.00122	.00047
SDev	.00429	.00003	.00001	.00006	.00095	.00035	.00006
%RSD	2017.8	.57992	16.421	67.169	36.862	28.564	12.174

#1	.00325	.00581	.00009	.00012	.00191	.00097	.00051
#2	-.00282	.00586	.00007	.00004	Q.00325	.00146	.00043

Errors	QC Pass	NOCHECK	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass
Value	.00000				.00000	.00000	.00000
Range	.00500				.00300	.00300	.01000

Elem	2203/1	2203/2	1960/1	1960/2	Li6707
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Units	ppm	ppm	ppm	ppm	ppm
Avg	Q.00256	Q.00293	-.00159	-.00043	.00005
SDev	.00050	.00146	.00201	.00340	.00006
%RSD	19.395	49.787	126.88	786.80	108.81

#1	Q.00221	.00190	Q-.00301	-.00284	.00010
#2	Q.00291	Q.00395	-.00016	.00197	.00001

Errors	QC Fail	QC Fail	QC Pass	QC Pass	NOCHECK
Value	.00000	.00000	.00000	.00000	
Range	.00200	.00200	.00300	.00300	

IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Avlen	371.030	--	--	--	--	--	--
Avg	9321	--	--	--	--	--	--
SDev	27.82714	--	--	--	--	--	--
%RSD	.2985491	--	--	--	--	--	--
#1	9301	--	--	--	--	--	--
#2	9340	--	--	--	--	--	--

Sample: 60102007 Sample Name: ICSEA  
Date: 07/27/00 10:39:16

Operator: GSP

CONC Corr. Factor: 1

	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	.00027	519.82	.00425	.00570	.00117	.00111	446.72
	.00009	1.82	.00198	.00016	.00007	.00003	1.35
	34.832	.34935	46.455	2.8129	5.8882	2.2665	.30188
#1	.00034	518.54	.00565	.00559	.00113	.00110	445.77
#2	.00020	521.10	.00286	.00581	.00122	.00113	447.67
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.00000	500.00	.00000	.00000	.00000	.00000	500.00
Range	.01000	100.00	.01000	.20000	.02000	.00600	100.00
Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00084	.00092	.00023	.00004	198.55	177.80	-.02475
SDev	.00025	.00030	.00034	.00006	.47	.48	.00260
%RSD	29.217	33.099	149.27	156.01	.23909	.27242	10.516
#1	.00067	.00113	.00047	.00008	198.21	177.45	-.02659
#2	.00101	.00070	-.00001	-.00000	198.89	178.14	-.02291
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass
Value	.00000	.00000	.00000	.00000	200.00		.00000
Range	.01000	.02000	.01000	.02000	40.000		2.0000
Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm		
Avge	548.51	.00922	-.00145	.00258	.00011	.00645	-.00039
SDev	2.08	.00005	.00090	.02669	.00146	.00212	.00075
%RSD	.37870	.50312	61.844	1035.4	1335.9	32.878	190.29
#1	547.04	.00919	-.00081	-.01629	-.00092	.00495	-.00093
#2	549.98	.00925	-.00208	.02145	.00114	.00794	.00014
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	500.00	.00000	.00000	.00000	.00000	.00000	.00000
Range	100.00	.02000	.02000	2.0000	.01000	.01000	.02000
Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00397	.00411	-.00509	-.00156	.01212	-.00170	.00310
SDev	.00462	.00173	.00001	.00007	.00325	.00003	.00019
%RSD	116.22	42.064	.18671	4.2992	26.831	1.9076	6.0923
#1	.00724	.00534	-.00509	-.00161	.00982	-.00173	.00297
#2	.00071	.00289	-.00510	-.00151	.01441	-.00168	.00323
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.00000	.00000	.00000	.00000	.00000	.00000	.00000
Range	.10000	.02000	.01000	.01000	.02000	.02000	.04000
Elem	2203/1	2203/2	1960/1	1960/2	Li6707		

Units	ppm	ppm	ppm	ppm	ppm
Wps	.00717	.00608	.00008	-.00063	.00015
SAV	.00122	.00257	.00340	.00057	.00003
MSD	16.991	42.221	4134.8	90.327	21.636
	.00631	.00427	-.00232	-.00023	.00018
	.00803	.00790	.00248	-.00104	.00013

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass
Value					.00000
Ratio					.10000

Std	1	2	3	4	5	6	7
Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Y	--	--	--	--	--	--	--
371.030	--	--	--	--	--	--	--
9018	--	--	--	--	--	--	--
26.50684	--	--	--	--	--	--	--
.2939356	--	--	--	--	--	--	--
9037	--	--	--	--	--	--	--
8999	--	--	--	--	--	--	--

Method: 60102007 Sample Name: ICSAB

Operator: GSP

Run Time: 07/27/00 10:44:21

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.54673	532.33	1.0537	1.0693	1.0374	.50755	453.60
SD	.00125	.49	.0027	.0031	.0006	.00015	.52
RSD	.22771	.09118	.25519	.29326	.05751	.02940	.11520

#1	.54761	532.67	1.0518	1.0715	1.0378	.50765	453.97
#2	.54585	531.98	1.0556	1.0671	1.0370	.50744	453.24

Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.50000	510.00	1.0000	1.0000	1.0000	.50000	510.00
Range	.10000	102.00	.20000	.20000	.20000	.10000	102.00

Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49084	.99801	1.0129	1.0995	208.17	184.90	14.120
SD	.00111	.00014	.0025	.0008	.19	.01	.029
RSD	.22524	.01354	.24457	.07476	.09336	.00364	.20586

#1	.49005	.99792	1.0146	1.1001	208.31	184.90	14.140
#2	.49162	.99811	1.0111	1.0989	208.04	184.91	14.099

Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass
Value	.50000	1.0000	1.0000	1.0000	210.00		10.000
Range	.10000	.20000	.20000	.20000	42.000		5.0000

Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm		
Avg	559.17	1.0363	1.0339	12.177	.97395	1.0225	1.0194
SD	.62	.0008	.0026	.086	.00200	.0056	.0020
RSD	.11091	.08082	.25305	.70830	.20495	.54345	.19795

#1	559.60	1.0369	1.0321	12.238	.97536	1.0265	1.0180
#2	558.73	1.0357	1.0358	12.116	.97254	1.0186	1.0208

Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	510.00	1.0000	1.0000	10.000	1.0000	1.0000	1.0000
Range	102.00	.20000	.20000	5.0000	.20000	.20000	.20000

Elem	Sb2068	Sn1899	Sr4215	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0446	1.0454	1.0356	1.0271	1.0365	1.0246	.96633
SD	.0061	.0007	.0025	.0005	.0007	.0010	.00164
RSD	.58765	.06687	.23938	.05340	.06628	.09766	.16982

#1	1.0403	1.0459	1.0374	1.0274	1.0360	1.0253	.96749
#2	1.0490	1.0449	1.0339	1.0267	1.0369	1.0239	.96516

Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Range	.20000	.20000	.20000	.20000	.20000	.20000	.20000

Elem	2203/1	2203/2	1960/1	1960/2	L16707
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Units	ppm	ppm	ppm	ppm	ppm		
Avge	1.0270	1.0203	1.0288	1.0147	1.2812		
SDev	.0058	.0055	.0036	.0012	.0025		
%RSD	.56100	.53463	.35372	.11910	.19828		
#1	1.0311	1.0241	1.0263	1.0138	1.2794		
#2	1.0229	1.0164	1.0314	1.0155	1.2830		
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass		
Value					1.0000		
Range					.50000		
IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	9008	--	--	--	--	--	--
SDev	21.03505	--	--	--	--	--	--
%RSD	.2335160	--	--	--	--	--	--
#1	8993	--	--	--	--	--	--
#2	9023	--	--	--	--	--	--

Method: 60102007

Sample Name: ICV/CCV

Operator: GSP

Run Time: 07/27/00 10:53:58

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.49191	10.048	.99959	.99689	.99369	.50820	10.320
SDev	.00096	.091	.00359	.00291	.00233	.00046	.056
%RSD	.19430	.91006	.35907	.29229	.23475	.08978	.54550

#1	.49124	9.9831	.99705	.99483	.99204	.50788	10.280
#2	.49259	10.112	1.0021	.99895	.99534	.50852	10.359

Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.50000	10.000	1.0000	1.0000	1.0000	.50000	10.000
Range	10.000	10.000	10.000	10.000	10.000	10.000	10.000

Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.51262	1.0093	1.0090	.98728	10.176	10.223	9.6238
SDev	.00008	.0006	.0008	.00239	.045	.035	.0267
%RSD	.01642	.06420	.08333	.24255	.43752	.33813	.27712

#1	.51268	1.0097	1.0096	.98558	10.145	10.198	9.6050
#2	.51256	1.0088	1.0084	.98897	10.208	10.247	9.6427

Errors	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass
Value	.50000	1.0000	1.0000	1.0000		10.000	10.000
Range	10.000	10.000	10.000	10.000		10.000	10.000

Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm		
Avge	10.191	1.0092	1.0024	9.4756	1.0168	1.0162	1.0113
SDev	.078	.0003	.0058	.0639	.0022	.0041	.0019
%RSD	.76428	.03005	.58114	.67472	.21478	.40426	.18418

#1	10.136	1.0089	.99825	9.5208	1.0184	1.0191	1.0126
#2	10.246	1.0094	1.0065	9.4304	1.0153	1.0133	1.0100

Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10.000	1.0000	1.0000	10.000	1.0000	1.0000	1.0000
Range	10.000	10.000	10.000	10.000	10.000	10.000	10.000

Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.97044	1.0139	1.0053	.98954	1.0039	1.0027	1.0338
SDev	.00927	.0002	.0032	.00168	.0032	.0002	.0023
%RSD	.95479	.01907	.31818	.17022	.32152	.01538	.21903

#1	.96389	1.0138	1.0031	.98835	1.0062	1.0026	1.0354
#2	.97699	1.0140	1.0076	.99073	1.0016	1.0028	1.0322

Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Range	10.000	10.000	10.000	10.000	10.000	10.000	10.000

Elem	2203/1	2203/2	1960/1	1960/2	Li6707
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	ppm	ppm	ppm	ppm	ppm		
	1.0089	1.0198	1.0062	1.0138	.97280		
	.0012	.0068	.0005	.0030	.00294		
	.12215	.66425	.04631	.29839	.30236		
	1.0080	1.0246	1.0059	1.0159	.97072		
	1.0097	1.0150	1.0066	1.0116	.97488		
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass		
Value					1.0000		
Range					10.000		
IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Plan	Y	--	--	--	--	--	--
Avlen	371.030	--	--	--	--	--	--
Avge	9941	--	--	--	--	--	--
SDev	8.253952	--	--	--	--	--	--
ARSD	.0830300	--	--	--	--	--	--
#1	9947	--	--	--	--	--	--
#2	9935	--	--	--	--	--	--



Sample ID: 60102007 Sample Name: ICB/CCB  
 Date: 07/27/00 10:59:01

Operator: GSP

Method: CONC Corr. Factor: 1

	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	.00032	.02460	.00218	.00271	.00078	.00039	.02387
	.00020	.01584	.00081	.00073	.00032	.00011	.01447
	62.053	64.399	37.125	26.969	41.611	28.936	60.643
#1	.00018	.01340	.00161	.00323	.00055	.00031	.01363
#2	.00047	.03580	.00275	.00220	.00101	.00046	.03410
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.00500	.10000	.00500	.10000	.01000	.00300	.50000
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000
Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00040	.00058	.00088	.00073	.02289	.01426	.00251
SDev	.00011	.00027	.00023	.00026	.01164	.00695	.00376
%RSD	26.176	46.996	26.570	36.209	50.876	48.730	149.72
#1	.00033	.00039	.00071	.00055	.01465	.00935	-.00015
#2	.00048	.00078	.00104	.00092	.03112	.01917	.00517
Errors	LC Pass	LC Pass	LC Pass	LC Pass	NOCHECK	LC Pass	LC Pass
High	.00500	.01000	.00500	.01000		.10000	1.0000
Low	-.00500	-.01000	-.00500	-.01000		-.10000	-1.0000
Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm		
Avg	.02439	.00075	.00177	.01675	.00137	-.00007	-.00254
SDev	.01870	.00029	.00004	.04806	.00050	.00048	.00096
%RSD	76.685	38.427	2.2381	286.89	36.162	648.02	37.614
#1	.01116	.00055	.00180	-.01723	.00102	-.00041	-.00187
#2	.03761	.00096	.00174	.05074	.00173	.00026	-.00322
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.50000	.01000	.01000	1.0000	.00500	.00500	.01000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000
Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00465	.00285	.00079	.00105	-.00120	.00062	.00064
SDev	.00141	.00068	.00022	.00030	.00039	.00038	.00036
%RSD	30.383	24.013	27.775	28.432	32.397	60.601	56.774
#1	.00365	.00333	.00063	.00084	-.00148	.00036	.00038
#2	.00565	.00236	.00094	.00126	-.00093	.00089	.00089
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.05000	.01000	.00500	.00500	.01000	.01000	.02000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000
Elem	2203/1	2203/2	1960/1	1960/2	Li6707		

Units	ppm	ppm	ppm	ppm	ppm
Avg	-.00065	.00021	-.00317	-.00223	.00074
SD	.00101	.00122	.00284	.00002	.00012
RSD	156.09	571.43	89.425	.78678	15.840
#1	.00007	-.00065	-.00117	-.00222	.00065
#2	-.00137	.00108	-.00518	-.00224	.00082
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	LC Pass
High					.05000
Low					-.05000

Std	1	2	3	4	5	6	7
Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Y	---	---	---	---	---	---	---
371.030	---	---	---	---	---	---	---
9969	---	---	---	---	---	---	---
11.55471	---	---	---	---	---	---	---
.1159077	---	---	---	---	---	---	---
9977	---	---	---	---	---	---	---
9961	---	---	---	---	---	---	---

## Analysis Report

07/27/00 11:09:00 AM

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Method: 60102007 Sample Name: PBWPD064

Operator: GSP

Run Time: 07/27/00 11:04:05

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00016	.00407	.00201	.00108	.00012	.00011	.00317
SDev	.00032	.00957	.00093	.00149	.00012	.00004	.00767
%RSD	194.32	235.26	46.177	137.75	102.67	32.189	242.13

#1	-.00039	-.00270	.00266	.00003	.00003	.00009	-.00226
#2	.00006	.01083	.00135	.00213	.00020	.00014	.00859

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.00500	.10000	.00500	.10000	.01000	.00300	.50000
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000

Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00012	.00035	.00018	-.00001	.01042	.00174	-.00837
SDev	.00018	.00000	.00055	.00038	.00478	.00378	.00744
%RSD	147.17	.12416	300.19	2928.3	45.919	216.87	88.876

#1	-.00001	.00035	-.00020	-.00028	.00704	-.00093	-.01362
#2	.00025	.00035	.00057	.00026	.01380	.00442	-.00311

Errors	LC Pass	LC Pass	LC Pass	LC Pass	NOCHECK	LC Pass	LC Pass
High	.00500	.01000	.00500	.01000		.10000	1.0000
Low	-.00500	-.01000	-.00500	-.01000		-.10000	-1.0000

Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00668	.00010	-.00005	-.03241	.00065	-.00104	-.00243
SDev	.00812	.00011	.00025	.02631	.00072	.00111	.00020
%RSD	121.63	117.08	544.83	81.180	110.60	105.99	8.2610

#1	.00093	.00002	-.00022	-.01381	.00014	-.00026	-.00257
#2	.01242	.00017	.00013	-.05101	.00117	-.00182	-.00229

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.50000	.01000	.01000	1.0000	.00500	.00500	.01000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000

Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00321	.00248	.00012	.00029	-.00186	.00009	-.00013
SDev	.00251	.00114	.00014	.00016	.00158	.00038	.00018
%RSD	78.241	45.841	115.87	55.801	85.048	405.59	143.68

#1	.00498	.00167	.00002	.00017	-.00074	-.00017	-.00026
#2	.00143	.00328	.00021	.00040	-.00297	.00036	.00000

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.05000	.01000	.00500	.00500	.01000	.01000	.02000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000

Elem	2203/1	2203/2	1960/1	1960/2	Li6707
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## Analysis Report

07/27/00 11:09:00 AM

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Units	ppm	ppm	ppm	ppm	ppm		
Avge	.00027	-.00170	-.00227	-.00251	.00002		
SDev	.00069	.00200	.00444	.00191	.00004		
%RSD	260.90	118.13	195.17	76.322	209.16		
#1	-.00022	-.00028	-.00541	-.00115	-.00001		
#2	.00076	-.00311	.00086	-.00386	.00004		
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	LC Pass		
High					.05000		
Low					-.05000		
IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Plan	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	9883	--	--	--	--	--	--
SDev	15.37543	--	--	--	--	--	--
%RSD	.1555681	--	--	--	--	--	--
#1	9894	--	--	--	--	--	--
#2	9873	--	--	--	--	--	--

Method: 60102007 Sample Name: LCSWPD064

Operator: GSP

Run Time: 07/27/00 11:09:08

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.47970	9.6322	.96908	.96929	.97195	.49318	9.8068
SDev	.00029	.0172	.00100	.00409	.00282	.00064	.0119
%RSD	.06112	.17835	.10301	.42224	.29046	.13088	.12170

#1	.47950	9.6201	.96838	.96640	.96995	.49272	9.7984
#2	.47991	9.6444	.96979	.97219	.97395	.49363	9.8152

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000

Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49429	.97521	.97710	.96634	L9.7789	9.8334	9.4180
SDev	.00081	.00171	.00135	.00270	.0130	.0163	.0071
%RSD	.16380	.17537	.13845	.27992	.13331	.16581	.07555

#1	.49372	.97400	.97614	.96442	L9.7697	9.8218	9.4130
#2	.49486	.97642	.97805	.96825	L9.7881	9.8449	9.4230

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000

Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm		
Avg	9.6958	.97645	.98995	9.2203	.98231	.97770	.97786
SDev	.0169	.00161	.00458	.0153	.00258	.00241	.00098
%RSD	.17399	.16459	.46240	.16626	.26255	.24677	.09986

#1	9.6839	.97532	.98671	9.2311	.98048	.97599	.97717
#2	9.7077	.97759	.99318	9.2095	.98413	.97940	.97855

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000

Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.95684	.99389	.98202	.98385	.96977	.97268	.99063
SDev	.00539	.00168	.00281	.00183	.00150	.00105	.00024
%RSD	.56342	.16912	.28585	.18629	.15448	.10804	.02436

#1	.95303	.99270	.98004	.98256	.97083	.97194	.99046
#2	.96066	.99507	.98401	.98515	.96871	.97342	.99080

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000

Elem	2203/1	2203/2	1960/1	1960/2	Li6707		
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	ppm	ppm	ppm	ppm	ppm
	.97346	.97981	.98084	.97637	.95905
	.00034	.00345	.00089	.00191	.00236
	.03457	.35203	.09118	.19567	.24661
	.97323	.97737	.98147	.97502	.95738
	.97370	.98225	.98021	.97773	.96072
ions	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK

	1	2	3	4	5	6	7
Std	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
ode	Y	--	--	--	--	--	--
len	371.030	--	--	--	--	--	--
aylen	9882	--	--	--	--	--	--
age	30.51539	--	--	--	--	--	--
bev	.3087861	--	--	--	--	--	--
SRSD							
#1	9904	--	--	--	--	--	--
#2	9861	--	--	--	--	--	--

Sample: 60102007 Sample Name: 007546-1

Operator: GSP

Time: 07/27/00 11:14:11

Element:

Conc: CONC Corr. Factor: 1

Element	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00018	.01936	.02619	.33882	1.3280	.00005	132.90
SDev	.00017	.00989	.00250	.00767	.0158	.00009	2.63
%RSD	94.568	51.089	9.5553	2.2648	1.1897	156.35	1.9775

#1	-.00031	.02635	.02796	.34424	1.3392	.00011	134.76
#2	-.00006	.01236	.02442	.33339	1.3168	-.00001	131.05

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000

Element	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00028	.00132	.00086	.00108	L22.472	22.879	10.730
SDev	.00001	.00020	.00033	.00010	.387	.355	.049
%RSD	2.9956	15.213	38.149	9.2702	1.7218	1.5505	.45240

#1	.00029	.00147	.00063	.00101	L22.746	23.130	10.765
#2	.00028	.00118	.00110	.00115	L22.199	22.629	10.696

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000

Element	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	41.736	1.7179	-.00562	46.354	.00635	.00244	.03044
SDev	.849	.0321	.00058	.312	.00057	.00173	.00421
%RSD	2.0339	1.8674	10.402	.67262	8.9418	71.000	13.833

#1	42.337	1.7406	-.00521	46.574	.00675	.00367	.02747
#2	41.136	1.6952	-.00604	46.133	.00595	.00122	.03342

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000

Element	Sb2068	Sn1899	Sr4215	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.03996	.07739	.67523	.00196	L-.05926	.00123	.43511
SDev	.00094	.00103	.00772	.00022	.00321	.00063	.01080
%RSD	2.3616	1.3337	1.1428	11.333	5.4122	51.466	2.4814

#1	-.03929	.07666	.68069	.00212	L-.05699	.00078	.44275
#2	-.04063	.07812	.66978	.00181	L-.06153	.00168	.42748

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000

Elem	2203/1	2203/2	1960/1	1960/2	Li6707
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Units	ppm	ppm	ppm	ppm	ppm
Avg	.00582	.00076	.01148	.03991	.00112
Std	.00569	.00544	.00671	.00296	.00006
RSD	97.827	718.09	58.510	7.4197	5.6230
#1	.00179	.00461	.00673	.03782	.00117
#2	.00984	-.00309	.01623	.04201	.00108

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High					
Low					

Std	1	2	3	4	5	6	7
Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Y	--	--	--	--	--	--	--
len	371.030	--	--	--	--	--	--
ce	10014	--	--	--	--	--	--
W	124.8907	--	--	--	--	--	--
o	1.247143	--	--	--	--	--	--
	9926	--	--	--	--	--	--
	10102	--	--	--	--	--	--



## Analysis Report

07/27/00 11:24:09 AM

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Method: 60102007 Sample Name: 007546-1L

Operator: GSP

Run Time: 07/27/00 11:19:14

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00010	.00747	.00524	.06903	.26751	.00002	28.491
SDev	.00023	.00055	.00177	.00057	.00197	.00002	.173
%RSD	224.18	7.3396	33.824	.82264	.73437	99.163	.60757

#1	.00006	.00786	.00649	.06943	.26612	.00001	28.368
#2	-.00026	.00708	.00398	.06863	.26890	.00003	28.613

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000

Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00004	.00036	.00077	.00005	L4.7241	4.8078	1.8185
SDev	.00038	.00054	.00023	.00007	.0335	.0306	.0277
%RSD	1043.2	151.82	30.127	146.71	.70986	.63726	1.5225

#1	.00030	.00074	.00061	-.00000	L4.7004	4.7861	1.7989
#2	-.00023	-.00003	.00093	.00010	L4.7478	4.8295	1.8380

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000

Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.7499	.35587	-.00144	8.4962	.00288	.00038	.00369
SDev	.0487	.00239	.00132	.1561	.00041	.00038	.00013
%RSD	.55625	.67150	91.787	1.8378	14.249	98.406	3.5463

#1	8.7155	.35418	-.00238	8.3858	.00317	.00065	.00360
#2	8.7843	.35756	-.00051	8.6066	.00259	.00012	.00379

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000

Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00625	.01626	.13613	.00063	L-.01090	.00035	.09441
SDev	.00034	.00193	.00091	.00003	.00195	.00006	.00052
%RSD	5.4805	11.857	.67066	5.5769	17.914	15.606	.55478

#1	-.00601	.01490	.13548	.00065	-.00952	.00039	.09404
#2	-.00649	.01763	.13677	.00060	L-.01229	.00031	.09478

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000

Elem	2203/1	2203/2	1960/1	1960/2	Li6707
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Units	ppm	ppm	ppm	ppm	ppm
Avge	.00064	.00025	-.00102	.00604	.00022
SDev	.00200	.00044	.00146	.00093	.00001
%RSD	313.49	173.27	143.81	15.330	3.2924

#1	.00205	-.00006	.00002	.00539	.00021
#2	-.00078	.00056	-.00205	.00670	.00022

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High					
Low					

IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	10066	--	--	--	--	--	--
SDev	41.50454	--	--	--	--	--	--
%RSD	.4123229	--	--	--	--	--	--
#1	10095	--	--	--	--	--	--
#2	10037	--	--	--	--	--	--

Lab: 60102007

Sample Name: 007546-1S

Operator: GSP

Time: 07/27/00 11:24:17

Unit:

Type: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.43003	9.7132	1.0564	1.3008	2.2602	.49193	137.97
SDev	.01486	.3162	.0317	.0376	.0666	.01597	3.49
%RSD	3.4552	3.2555	3.0013	2.8942	2.9469	3.2456	2.5264
#1	.41953	9.4896	1.0340	1.2742	2.2131	.48064	135.51
#2	.44054	9.9368	1.0788	1.3275	2.3073	.50321	140.44
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000
Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.46980	.95229	.96285	.98625	L31.302	31.544	21.834
SDev	.01424	.02890	.03223	.03174	.862	.862	.614
%RSD	3.0303	3.0349	3.3472	3.2184	2.7540	2.7342	2.8108
#1	.45973	.93186	.94006	.96381	L30.692	30.934	21.400
#2	.47987	.97273	.98564	1.0087	L31.911	32.154	22.268
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000
Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm		
Avg	50.104	2.6189	.95698	56.382	.95043	.94278	1.2208
SDev	1.231	.0722	.03513	1.296	.03276	.02170	.0363
%RSD	2.4568	2.7562	3.6714	2.2989	3.4471	2.3023	2.9726
#1	49.234	2.5679	.93214	55.466	.92727	.92743	1.1951
#2	50.975	2.6700	.98183	57.299	.97360	.95812	1.2464
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000
Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.62830	.70962	1.6385	.95428	.90725	.98196	1.3514
SDev	.16454	.04467	.0531	.02765	.02003	.03127	.0393
%RSD	26.188	6.2947	3.2414	2.8971	2.2079	3.1848	2.9082
#1	.51196	.67803	1.6009	.93474	.89309	.95985	1.3236
#2	.74465	.74120	1.6760	.97383	.92142	1.0041	1.3791
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000
Elem	2203/1	2203/2	1960/1	1960/2	Li6707		

ppm	ppm	ppm	ppm	ppm
.94733	.94050	1.2055	1.2284	.98831
.01809	.02351	.0310	.0389	.03970
1.9091	2.5000	2.5738	3.1681	4.0168
.93454	.92388	1.1836	1.2008	.96023
.96012	.95713	1.2275	1.2559	1.0164
NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK

1	2	3	4	5	6	7
Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Y	---	---	---	---	---	---
371.030	---	---	---	---	---	---
10142	---	---	---	---	---	---
189.2691	---	---	---	---	---	---
1.866148	---	---	---	---	---	---
10276	---	---	---	---	---	---
10008	---	---	---	---	---	---

## Analysis Report

07/27/00 11:34:15 AM

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Method: 60102007 Sample Name: 007546-1SD Operator: GSP  
 Date Time: 07/27/00 11:29:21  
 Element:  
 CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.44367	9.6852	1.0526	1.3058	2.2811	.48680	139.17
SDev	.00456	.0036	.0014	.0013	.0086	.00122	.41
RSD	1.0281	.03756	.13289	.09943	.37554	.25094	.29211
#1	.44690	9.6826	1.0516	1.3067	2.2751	.48593	138.88
#2	.44045	9.6878	1.0536	1.3048	2.2872	.48766	139.46
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000
Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.46483	.94055	.95320	.98352	L31.465	31.733	22.085
SDev	.00101	.00162	.00316	.00164	.024	.058	.100
RSD	.21676	.17181	.33200	.16690	.07773	.18383	.45406
#1	.46412	.93940	.95096	.98235	L31.447	31.692	22.014
#2	.46554	.94169	.95544	.98468	L31.482	31.774	22.156
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000
Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	50.527	2.6302	.96774	57.168	.94146	.92921	1.2087
SDev	.055	.0062	.00628	.183	.00049	.00119	.0032
RSD	.10871	.23665	.64911	.32085	.05207	.12850	.26214
#1	50.488	2.6258	.96330	57.039	.94111	.93005	1.2065
#2	50.566	2.6346	.97218	57.298	.94181	.92837	1.2109
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000
Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.67351	.72438	1.6483	.96614	.89759	.97320	1.3371
SDev	.08689	.00454	.0054	.00101	.00239	.00310	.0023
RSD	12.901	.62663	.33027	.10423	.26620	.31813	.17346
#1	.61207	.72117	1.6444	.96543	.89591	.97101	1.3354
#2	.73495	.72759	1.6521	.96686	.89928	.97539	1.3387
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000
Elem	2203/1	2203/2	1960/1	1960/2	Li6707		

Units	ppm	ppm	ppm	ppm	ppm
Avg	.93276	.92744	1.2045	1.2108	.99767
SD	.00755	.00556	.0082	.0006	.00124
RSD	.80989	.59968	.68333	.05297	.12416

#1	.92742	.93137	1.1987	1.2104	.99854
#2	.93810	.92350	1.2103	1.2113	.99679

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
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High

Low

IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	---	---	---	---	---	---
Avlen	371.030	---	---	---	---	---	---
Age	10001	---	---	---	---	---	---
Dev	2.122011	---	---	---	---	---	---
RSD	.0212185	---	---	---	---	---	---
#1	9999	---	---	---	---	---	---
#2	10002	---	---	---	---	---	---

Method: 60102007 Sample Name: 007546-2

Operator: GSP

Run Time: 07/27/00 11:34:24

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00012	.01103	.01017	.19252	1.1150	.00019	88.477
SDev	.00015	.00827	.00060	.00894	.0448	.00014	3.919
%RSD	117.88	74.984	5.9156	4.6423	4.0166	70.424	4.4296

#1	-.00023	.01688	.00974	.19884	1.1467	.00029	91.248
#2	-.00002	.00518	.01060	.18620	1.0833	.00010	85.706

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000

Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00032	.00036	.00068	.00181	L.02325	.01645	9.6304
SDev	.00001	.00027	.00032	.00031	.00054	.00203	.3022
%RSD	2.7013	75.827	46.440	17.160	2.3270	12.350	3.1380

#1	.00033	.00055	.00046	.00202	L.02286	.01789	9.8441
#2	.00032	.00016	.00091	.00159	L.02363	.01501	9.4168

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000

Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	47.087	.00758	.00187	45.579	.00306	.00070	.00955
SDev	2.058	.00054	.00058	1.803	.00013	.00030	.00237
%RSD	4.3707	7.1143	30.798	3.9567	4.3011	42.439	24.807

#1	48.542	.00796	.00228	46.854	.00315	.00049	.01123
#2	45.631	.00720	.00146	44.304	.00297	.00091	.00787

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000

Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00725	.02344	.18298	.00125	L-.01714	.00294	.37994
SDev	.00119	.00300	.00770	.00014	.00028	.00006	.01687
%RSD	16.456	12.811	4.2071	11.116	1.6580	1.9837	4.4394

#1	-.00641	.02556	.18842	.00135	L-.01734	.00298	.39186
#2	-.00810	.02131	.17753	.00115	L-.01694	.00290	.36801

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000

Elem	2203/1	2203/2	1960/1	1960/2	Li6707
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## Analysis Report

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Units	ppm	ppm	ppm	ppm	ppm
Avg	-.00074	.00142	.00678	.01093	.00363
SDev	.00027	.00058	.00110	.00300	.00035
%RSD	35.920	40.739	16.199	27.472	9.6143

#1	-.00055	.00101	.00756	.01306	.00388
#2	-.00093	.00183	.00600	.00881	.00338

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
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High

Low

IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	---	---	---	---	---	---
Avlen	371.030	---	---	---	---	---	---
Avg	10030	---	---	---	---	---	---
SDev	389.6690	---	---	---	---	---	---
%RSD	3.885004	---	---	---	---	---	---
#1	9755	---	---	---	---	---	---
#2	10306	---	---	---	---	---	---



60102007 Sample Name: 007546-3  
 Date: 07/27/00 11:39:27

Operator: GSP

INC Corr. Factor: 1

	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	-.00000	.33471	.00691	.27986	.84743	-.00001	51.844
	.00031	.00295	.00031	.00025	.00261	.00002	.269
	23159.	.88161	4.4708	.08873	.30798	208.03	.51936
#1	-.00022	.33262	.00713	.28004	.84559	.00001	51.654
#2	.00021	.33679	.00669	.27969	.84928	-.00003	52.035
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000
Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00011	.00071	.00298	.01732	L.38352	.37399	H107.58
SDev	.00002	.00042	.00015	.00007	.00559	.00826	.53
%RSD	21.396	60.060	5.1687	.43444	1.4570	2.2083	.49372
#1	.00009	.00041	.00309	.01726	L.37956	.36815	H107.20
#2	.00013	.00100	.00287	.01737	L.38747	.37983	H107.96
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC High
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000
Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	28.829	.03454	.00446	34.958	.00803	-.00012	.00821
SDev	.130	.00007	.00073	.186	.00026	.00089	.00304
%RSD	.45085	.20996	16.276	.53242	3.2333	723.60	37.081
#1	28.737	.03449	.00497	34.827	.00785	-.00075	.01036
#2	28.921	.03459	.00395	35.090	.00821	.00051	.00605
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000
Elem	Sb2068	Sn1899	Sr4215	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00575	.01916	.15115	.01160	L-.01065	.00330	.19160
SDev	.00214	.00083	.00039	.00044	.00060	.00018	.00122
%RSD	37.188	4.3352	.25637	3.8333	5.6061	5.3570	.63714
#1	-.00726	.01857	.15087	.01129	L-.01023	.00317	.19074
#2	-.00424	.01975	.15142	.01192	L-.01107	.00342	.19246
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000
Elem	2203/1	2203/2	1960/1	1960/2	Li6707		

ppm	ppm	ppm	ppm	ppm
-0.00177	.00070	.00477	.00992	.00326
.00049	.00109	.00634	.00140	.00005
27.799	154.94	132.86	14.099	1.4254
-0.00212	-0.00007	.00925	.01091	.00329
-0.00143	.00147	.00029	.00893	.00322
NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK

1	2	3	4	5	6	7
Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Y	--	--	--	--	--	--
371.030	--	--	--	--	--	--
10305	--	--	--	--	--	--
15.94167	--	--	--	--	--	--
.1546961	--	--	--	--	--	--
10294	--	--	--	--	--	--
10316	--	--	--	--	--	--

## Analysis Report

07/27/00 11:49:25 AM

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Method: 60102007 Sample Name: 007546-4

Operator: GSP

Run Time: 07/27/00 11:44:30

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00008	.12866	.00737	.21303	.27823	.00001	76.550
SD	.00009	.00066	.00067	.00333	.00149	.00002	.380
RSD	105.28	.51049	9.1074	1.5653	.53668	174.83	.49600
#1	-.00002	.12820	.00689	.21067	.27718	.00003	76.282
#2	-.00014	.12913	.00784	.21538	.27929	-.00000	76.819
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000
Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00000	.00057	.00140	.01073	L.14674	.13683	20.082
SD	.00000	.00033	.00031	.00010	.00109	.00115	.117
RSD	7.7358	57.349	21.900	.94331	.74228	.84182	.58099
#1	.00000	.00034	.00118	.01066	L.14597	.13764	19.999
#2	.00000	.00080	.00162	.01080	L.14751	.13601	20.164
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000
Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	50.665	.10490	.00077	42.542	.00550	.00080	.01231
SD	.231	.00043	.00008	.349	.00008	.00216	.00277
RSD	.45569	.40682	10.617	.81938	1.5232	270.40	22.507
#1	50.502	.10460	.00083	42.296	.00544	-.00073	.01035
#2	50.828	.10521	.00071	42.789	.00556	.00233	.01427
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000
Elem	Sb2068	Sn1899	Sr4215	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00749	.02410	.20996	.00514	L-.01630	.00191	.18404
SD	.00173	.00164	.00118	.00003	.00157	.00006	.00112
RSD	23.031	6.8109	.56279	.50057	9.6423	3.2935	.60994
#1	-.00872	.02294	.20912	.00516	L-.01519	.00187	.18325
#2	-.00627	.02526	.21079	.00512	L-.01741	.00196	.18484
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000
Elem	2203/1	2203/2	1960/1	1960/2	Li6707		

Units	ppm	ppm	ppm	ppm	ppm
Avg	.00046	.00097	.00917	.01388	.00185
SD	.00054	.00297	.00479	.00176	.00006
%RSD	117.85	306.19	52.245	12.700	2.9742

#1	.00008	-.00113	.00578	.01264	.00181
#2	.00084	.00307	.01256	.01513	.00189

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High					
Low					

IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Avlen	371.030	--	--	--	--	--	--
Avg	10062	--	--	--	--	--	--
SD	3.301443	--	--	--	--	--	--
%RSD	.0328111	--	--	--	--	--	--
#1	10064	--	--	--	--	--	--
#2	10060	--	--	--	--	--	--

## Analysis Report

07/27/00 11:54:28 AM

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Method: 60102007 Sample Name: 007551-1

Operator: GSP

Run Time: 07/27/00 11:49:33

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00024	.01427	.00714	.17460	1.0175	.00001	161.81
SDev	.00026	.00002	.00085	.00047	.0081	.00000	.49
%RSD	106.44	.16919	11.834	.26809	.79287	21.731	.30034

#1	.00006	.01429	.00654	.17427	1.0118	.00002	161.47
#2	.00042	.01425	.00774	.17493	1.0232	.00001	162.15

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000

Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00045	.00214	.00086	.00438	L.02068	.00947	12.298
SDev	.00030	.00002	.00015	.00015	.00104	.00042	.120
%RSD	66.214	1.1091	17.815	3.5314	5.0290	4.4533	.97522

#1	.00065	.00215	.00075	.00427	L.01994	.00917	12.213
#2	.00024	.00212	.00097	.00449	L.02141	.00977	12.383

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000

Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	72.197	.08505	.00133	50.034	.01373	.00058	.00917
SDev	.274	.00034	.00088	.261	.00059	.00064	.00095
%RSD	.37909	.40289	65.980	.52258	4.2726	109.61	10.395

#1	72.003	.08481	.00071	49.849	.01414	.00013	.00984
#2	72.390	.08529	.00195	50.219	.01331	.00103	.00849

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000

Elem	Sb2068	Sn1899	Sr4215	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00660	.01524	.33056	.00016	L-.01080	.00109	.33605
SDev	.00105	.00034	.00195	.00002	.00069	.00019	.00027
%RSD	15.860	2.2407	.59064	14.554	6.4000	17.099	.08116

#1	-.00586	.01549	.32918	.00018	L-.01129	.00096	.33586
#2	-.00735	.01500	.33194	.00015	L-.01031	.00122	.33624

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000

Elem	2203/1	2203/2	1960/1	1960/2	L16707
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## Analysis Report

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Units	ppm	ppm	ppm	ppm	ppm
Avg	.00186	-.00006	.00665	.01043	.00775
SDev	.00029	.00081	.00603	.00158	.00012
%RSD	15.544	1351.7	90.734	15.173	1.5197

#1	.00166	-.00063	.01091	.00931	.00767
#2	.00207	.00051	.00238	.01155	.00783

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High					
Low					

IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avg	10113	--	--	--	--	--	--
SDev	12.45171	--	--	--	--	--	--
%RSD	.1231243	--	--	--	--	--	--
#1	10122	--	--	--	--	--	--
#2	10104	--	--	--	--	--	--

60102007

Sample Name: ICV/CCV

Operator: GSP

Date: 07/27/00 11:54:36

QC Corr. Factor: 1

	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	.49413	10.052	1.0007	1.0008	1.0051	.50351	10.242
	.00082	.015	.0030	.0012	.0001	.00092	.003
	.16679	.14635	.29537	.11726	.01120	.18303	.02975
#1	.49471	10.042	1.0027	1.0000	1.0052	.50285	10.240
#2	.49355	10.063	.99856	1.0017	1.0050	.50416	10.244
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.50000	10.000	1.0000	1.0000	1.0000	.50000	10.000
Range	10.000	10.000	10.000	10.000	10.000	10.000	10.000
Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50417	1.0010	.99946	.99680	10.078	10.143	9.8488
SDev	.00155	.0023	.00070	.00036	.020	.016	.0113
%RSD	.30756	.22528	.07048	.03586	.19975	.15590	.11515
#1	.50307	.99936	.99896	.99705	10.064	10.132	9.8568
#2	.50526	1.0025	.99996	.99655	10.092	10.154	9.8408
Errors	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass
Value	.50000	1.0000	1.0000	1.0000		10.000	10.000
Range	10.000	10.000	10.000	10.000		10.000	10.000
Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.135	1.0015	.99647	9.6279	1.0017	.99924	1.0173
SDev	.001	.0012	.00690	.0522	.0010	.00171	.0011
%RSD	.01014	.11980	.69269	.54204	.10238	.17082	.10985
#1	10.134	1.0006	.99159	9.6648	1.0010	1.0004	1.0165
#2	10.135	1.0023	1.0014	9.5910	1.0024	.99803	1.0181
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10.000	1.0000	1.0000	10.000	1.0000	1.0000	1.0000
Range	10.000	10.000	10.000	10.000	10.000	10.000	10.000
Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.97278	1.0070	1.0137	.98904	1.0010	.99767	1.0078
SDev	.00972	.0038	.0016	.00073	.0025	.00021	.0022
%RSD	.99905	.38224	.15915	.07388	.25394	.02108	.21661
#1	.96591	1.0042	1.0125	.98852	.99917	.99753	1.0063
#2	.97965	1.0097	1.0148	.98956	1.0028	.99782	1.0094
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Range	10.000	10.000	10.000	10.000	10.000	10.000	10.000
Elem	2203/1	2203/2	1960/1	1960/2	L16707		

ppm	ppm	ppm	ppm	ppm	ppm
.99890	.99941	1.0228	1.0145	.98926	
.00286	.00113	.0077	.0055	.00115	
.28632	.11318	.75246	.54387	.11660	
1.0009	1.0002	1.0283	1.0106	.98844	
.99688	.99861	1.0174	1.0184	.99007	

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass
Value					1.0000
Range					10.000

Std	1	2	3	4	5	6	7
Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Y	--	--	--	--	--	--	--
371.030	--	--	--	--	--	--	--
9839	--	--	--	--	--	--	--
28.58120	--	--	--	--	--	--	--
.2904894	--	--	--	--	--	--	--
9819	--	--	--	--	--	--	--
9859	--	--	--	--	--	--	--



Method: 60102007 Sample Name: ICB/CCB

Operator: GSP

Run Time: 07/27/00 11:59:39

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00050	.02492	.00301	.00289	.00092	.00041	.03634
SDev	.00022	.00279	.00217	.00015	.00006	.00005	.00250
%RSD	44.705	11.199	71.862	5.1837	7.0480	11.097	6.8712

#1	.00066	.02295	.00148	.00279	.00088	.00037	.03457
#2	.00034	.02689	.00455	.00300	.00097	.00044	.03810

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.00500	.10000	.00500	.10000	.01000	.00300	.50000
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000

Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00045	.00120	.00132	.00065	.02252	.01363	.00933
SDev	.00012	.00000	.00016	.00006	.00262	.00051	.00008
%RSD	26.964	.34122	12.094	9.3065	11.643	3.7716	.81651

#1	.00053	.00120	.00121	.00069	.02067	.01326	.00928
#2	.00036	.00120	.00144	.00061	.02438	.01399	.00938

Errors	LC Pass	LC Pass	LC Pass	LC Pass	NOCHECK	LC Pass	LC Pass
High	.00500	.01000	.00500	.01000		.10000	1.0000
Low	-.00500	-.01000	-.00500	-.01000		-.10000	-1.0000

Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.03004	.00081	.00152	-.03730	.00142	.00089	-.00222
SDev	.00382	.00007	.00036	.01532	.00016	.00047	.00159
%RSD	12.703	8.9164	23.698	41.060	11.111	53.429	71.435

#1	.02734	.00076	.00178	-.04813	.00131	.00055	-.00110
#2	.03274	.00086	.00127	-.02647	.00153	.00122	-.00335

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.50000	.01000	.01000	1.0000	.00500	.00500	.01000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000

Elem	Sb2068	Sn1899	Sr4215	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00451	.00395	.00084	.00130	-.00027	.00101	.00082
SDev	.00031	.00055	.00005	.00005	.00060	.00018	.00028
%RSD	6.9025	13.980	6.2231	4.1899	219.28	17.512	33.636

#1	.00429	.00434	.00081	.00126	-.00070	.00114	.00063
#2	.00473	.00356	.00088	.00134	.00015	.00089	.00102

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.05000	.01000	.00500	.00500	.01000	.01000	.02000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000

Elem	2203/1	2203/2	1960/1	1960/2	Li6707
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Units	ppm	ppm	ppm	ppm	ppm		
Avg	-.00035	.00151	-.00136	-.00265	.00075		
SDev	.00043	.00049	.00403	.00037	.00003		
%RSD	122.22	32.812	296.31	13.886	3.8982		
#1	-.00066	.00116	.00149	-.00239	.00073		
#2	-.00005	.00186	-.00421	-.00291	.00077		
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	LC Pass		
High					.05000		
Low					-.05000		
IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	---	---	---	---	---	---
Wavlen	371.030	---	---	---	---	---	---
Avg	10034	---	---	---	---	---	---
SDev	64.04841	---	---	---	---	---	---
%RSD	.6382917	---	---	---	---	---	---
#1	10080	---	---	---	---	---	---
#2	9989	---	---	---	---	---	---

## Analysis Report

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Method: 60102007 Sample Name: 007551-2

Operator: GSP

Run Time: 07/27/00 12:04:42

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00002	.15516	.00565	.18784	.85568	.00006	30.037
SDev	.00039	.00208	.00182	.00116	.00764	.00005	.250
%RSD	2037.4	1.3432	32.128	.61896	.89298	90.822	.83200

#1	-.00026	.15369	.00437	.18702	.85028	.00010	29.860
#2	.00029	.15663	.00694	.18867	.86108	.00002	30.214

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000

Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00007	.00054	.00399	.00242	L.17694	.16947	4.3641
SDev	.00001	.00013	.00034	.00014	.00147	.00238	.0541
%RSD	19.002	24.516	8.3912	5.5679	.82829	1.4026	1.2404

#1	.00006	.00045	.00375	.00252	L.17591	.16779	4.3258
#2	.00007	.00064	.00422	.00232	L.17798	.17116	4.4023

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000

Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.637	.01245	-.00032	54.111	.00612	.00065	.00446
SDev	.124	.00001	.00004	.529	.00002	.00058	.00151
%RSD	.74516	.11154	12.114	.97775	.26400	89.192	33.887

#1	16.549	.01244	-.00034	53.737	.00613	.00024	.00553
#2	16.724	.01246	-.00029	54.485	.00611	.00106	.00339

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000

Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00264	.01425	.13864	.00648	-.00929	.00566	.27268
SDev	.00044	.00019	.00113	.00007	.00028	.00014	.00200
%RSD	16.819	1.3244	.81512	1.0844	2.9839	2.4362	.73500

#1	-.00232	.01412	.13784	.00653	-.00909	.00556	.27126
#2	-.00295	.01438	.13944	.00643	-.00949	.00576	.27409

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000

Elem	2203/1	2203/2	1960/1	1960/2	L16707
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	ppm	ppm	ppm	ppm	ppm		
1	-.00151	.00173	.00712	.00314	.00125		
2	.00143	.00159	.00540	.00043	.00007		
3	95.001	91.722	75.883	13.669	5.8170		
4	-.00050	.00061	.01094	.00284	.00130		
5	-.00252	.00285	.00330	.00344	.00120		
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK		
High							
Low							
IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	---	---	---	---	---	---
Wavlen	371.030	---	---	---	---	---	---
Avg	10319	---	---	---	---	---	---
SDev	29.80759	---	---	---	---	---	---
CRSD	.2888699	---	---	---	---	---	---
#1	10340	---	---	---	---	---	---
#2	10298	---	---	---	---	---	---

Sample Name: 007551-3

Operator: GSP

07/27/00 12:09:46

COND Corr. Factor: 1

	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	.00007	.18462	.00541	.17664	1.3288	.00007	60.249
	.00029	.01922	.00054	.00776	.0490	.00012	2.301
	439.03	10.413	9.9549	4.3915	3.6856	172.49	3.8194
	.00027	.19821	.00579	.18213	1.3634	.00016	61.876
	-.00014	.17102	.00503	.17116	1.2941	-.00002	58.622
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000
Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00006	.00103	.00240	.00246	L.32486	.31913	5.3827
SDev	.00019	.00003	.00013	.00031	.01628	.01405	.1451
%RSD	319.44	3.2442	5.5497	12.776	5.0099	4.4010	2.6948
#1	.00019	.00101	.00249	.00268	L.33637	.32906	5.4852
#2	-.00007	.00106	.00230	.00224	L.31336	.30920	5.2801
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000
Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	43.425	.02744	-.00074	35.538	.00611	-.00058	.00867
SDev	1.707	.00114	.00059	1.256	.00092	.00218	.00062
%RSD	3.9307	4.1536	79.206	3.5346	15.082	374.24	7.1204
#1	44.632	.02825	-.00033	36.426	.00546	.00096	.00910
#2	42.218	.02663	-.00115	34.650	.00676	-.00212	.00823
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000
Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00771	.01875	.20655	.00701	L-.01453	.00248	.42064
SDev	.00227	.00219	.00775	.00049	.00089	.00002	.01586
%RSD	29.415	11.671	3.7535	6.9231	6.1158	.91612	3.7707
#1	-.00610	.02030	.21203	.00736	L-.01390	.00247	.43185
#2	-.00931	.01720	.20106	.00667	L-.01516	.00250	.40942
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000
Elem	2203/1	2203/2	1960/1	1960/2	L16707		

	ppm	ppm	ppm	ppm	ppm
1	.00151	-.00162	.01080	.00760	.00103
2	.00235	.00209	.00211	.00013	.00010
3	156.27	128.64	19.495	1.6620	9.9327
4	.00317	-.00015	.01229	.00751	.00111
5	-.00016	-.00310	.00931	.00769	.00096
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK

	1	2	3	4	5	6	7
Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Y	---	---	---	---	---	---	---
371.030	---	---	---	---	---	---	---
9907	---	---	---	---	---	---	---
377.5950	---	---	---	---	---	---	---
3.811518	---	---	---	---	---	---	---
9640	---	---	---	---	---	---	---
10174	---	---	---	---	---	---	---

## Analysis Report

07/27/00 12:19:44 PM

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Method: 60102007 Sample Name: 007551-4

Operator: GSP

Run Time: 07/27/00 12:14:49

Comment:

Code: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00024	.16357	.00459	.19816	1.1343	-.00009	50.964
SDev	.00031	.00737	.00326	.00442	.0289	.00003	1.133
%RSD	129.10	4.5051	70.980	2.2298	2.5478	35.066	2.2229

#1	-.00002	.15836	.00690	.19504	1.1139	-.00011	50.163
#2	-.00046	.16878	.00229	.20129	1.1548	-.00006	51.765

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000

Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00011	.00057	.00262	.00342	L.29381	.29197	5.6585
SDev	.00007	.00050	.00012	.00010	.00476	.01103	.1477
%RSD	60.967	87.729	4.4387	2.9317	1.6213	3.7795	2.6104

#1	.00016	.00093	.00270	.00335	L.29044	.28417	5.5540
#2	.00007	.00022	.00254	.00349	L.29718	.29978	5.7629

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000

Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	30.627	.01189	-.00013	28.295	.00769	-.00013	.00105
SDev	.721	.00016	.00003	.615	.00052	.00046	.00013
%RSD	2.3549	1.3675	19.167	2.1742	6.8158	367.88	12.271

#1	30.117	.01177	-.00011	27.860	.00732	-.00045	.00095
#2	31.137	.01200	-.00015	28.730	.00806	.00020	.00114

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000

Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00496	.01225	.14790	.00834	-.00849	.00351	.31256
SDev	.00101	.00138	.00358	.00006	.00055	.00047	.00710
%RSD	20.407	11.252	2.4186	.73252	6.4405	13.403	2.2709

#1	-.00567	.01323	.14537	.00830	-.00888	.00318	.30754
#2	-.00424	.01128	.15043	.00839	-.00811	.00384	.31758

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000

Elem	2203/1	2203/2	1960/1	1960/2	Li6707
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Units	ppm	ppm	ppm	ppm	ppm
Avge	-.00038	.00000	.00180	.00067	.00176
SDev	.00126	.00006	.00050	.00006	.00002
%RSD	329.99	3187.8	27.690	8.4332	1.0937

#1	-.00127	-.00004	.00145	.00071	.00175
#2	.00051	.00005	.00215	.00063	.00177

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High					
Low					

IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	10359	--	--	--	--	--	--
SDev	143.5675	--	--	--	--	--	--
%RSD	1.385978	--	--	--	--	--	--
#1	10460	--	--	--	--	--	--
#2	10257	--	--	--	--	--	--



## Analysis Report

07/27/00 12:24:47 PM

page 1

Method: 60102007 Sample Name: PBWPW247

Operator: GSP

Run Time: 07/27/00 12:19:53

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00004	.00673	.00260	.00142	.00085	.00001	.04496
SDev	.00021	.00201	.00140	.00011	.00009	.00002	.00447
%RSD	490.10	29.864	53.841	7.4014	10.408	364.28	9.9515

#1	-.00010	.00531	.00359	.00134	.00091	-.00001	.04812
#2	.00019	.00815	.00161	.00149	.00079	.00002	.04180

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.00500	.10000	.00500	.10000	.01000	.00300	.50000
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000

Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00005	-.00051	.00001	-.00023	.00901	.00060	.00479
SDev	.00003	.00014	.00005	.00025	.00540	.00048	.00950
%RSD	58.643	27.077	479.25	107.36	59.937	78.657	198.21

#1	.00008	-.00061	-.00003	-.00006	.00519	.00094	.01151
#2	.00003	-.00042	.00005	-.00041	.01283	.00027	-.00192

Errors	LC Pass	LC Pass	LC Pass	LC Pass	NOCHECK	LC Pass	LC Pass
High	.00500	.01000	.00500	.01000		.10000	1.0000
Low	-.00500	-.01000	-.00500	-.01000		-.10000	-1.0000

Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02439	.00005	-.00035	.06943	-.00156	.00055	-.00256
SDev	.00061	.00000	.00025	.09374	.00022	.00037	.00002
%RSD	2.5070	.97899	71.969	135.01	13.901	68.196	.73698

#1	.02396	.00005	-.00053	.13572	-.00171	.00028	-.00258
#2	.02482	.00005	-.00017	.00315	-.00140	.00081	-.00255

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.50000	.01000	.01000	1.0000	.00500	.00500	.01000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000

Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00428	.00206	.00013	.00003	-.00594	-.00004	.00037
SDev	.00089	.00174	.00002	.00003	.00125	.00007	.00004
%RSD	20.833	84.481	16.288	122.69	20.998	174.70	12.085

#1	.00491	.00329	.00014	.00005	-.00505	-.00008	.00040
#2	.00365	.00083	.00011	.00000	-.00682	.00001	.00034

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.05000	.01000	.00500	.00500	.01000	.01000	.02000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000

Elem	2203/1	2203/2	1960/1	1960/2	Li6707
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	ppm	ppm	ppm	ppm	ppm
	.00155	.00005	-.01061	.00146	.00002
	.00037	.00038	.00247	.00126	.00002
	24.029	759.38	23.312	86.702	79.359
	.00129	-.00022	-.00886	.00056	.00004
	.00181	.00031	-.01236	.00235	.00001

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	LC Pass
High					.05000
Low					-.05000

IntStd	1	2	3	4	5	6	7
Counts	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Sum	Y	--	--	--	--	--	--
Mean	371.030	--	--	--	--	--	--
Dev	9694	--	--	--	--	--	--
SD	27.92105	--	--	--	--	--	--
SRSD	.2880148	--	--	--	--	--	--
1	9714	--	--	--	--	--	--
2	9675	--	--	--	--	--	--

Sample ID: 60102007 Sample Name: LCSWPW247  
 Date: 07/27/00 12:24:56

Operator: GSP

Conc Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.51513	9.8253	.98729	.96529	1.0136	.50145	10.087
SDev	.00414	.0763	.00723	.01470	.0078	.00493	.107
%RSD	.80430	.77626	.73275	1.5232	.77015	.98297	1.0568
#1	.51220	9.7713	.98217	.95490	1.0081	.49797	10.011
#2	.51806	9.8792	.99240	.97569	1.0191	.50494	10.162
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000
Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.50497	1.0063	1.0150	1.0161	L10.122	10.177	9.5873
SDev	.00453	.0112	.0116	.0071	.110	.093	.0200
%RSD	.89763	1.1121	1.1472	.69635	1.0824	.91863	.20859
#1	.50177	.99837	1.0068	1.0111	L10.045	10.111	9.5732
#2	.50818	1.0142	1.0233	1.0211	L10.200	10.243	9.6014
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000
Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	9.9680	1.0104	1.0540	9.6098	1.0085	1.0045	.91615
SDev	.0902	.0101	.0115	.0923	.0084	.0081	.00611
%RSD	.90516	.99774	1.0927	.95999	.83664	.80390	.66715
#1	9.9042	1.0033	1.0459	9.5445	1.0025	.99881	.91183
#2	10.032	1.0176	1.0622	9.6750	1.0144	1.0102	.92047
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000
Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.0163	1.0571	1.0229	1.0482	.99441	1.0109	1.0099
SDev	.0122	.0072	.0070	.0100	.00486	.0108	.0120
%RSD	1.1995	.68064	.68345	.95304	.48884	1.0663	1.1900
#1	1.0077	1.0520	1.0179	1.0412	.99097	1.0032	1.0014
#2	1.0249	1.0622	1.0278	1.0553	.99784	1.0185	1.0184
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000
Elem	2203/1	2203/2	1960/1	1960/2	L16707		

Units	ppm	ppm	ppm	ppm	ppm
Avg	1.0068	1.0034	.90830	.92007	.98666
SDev	.0067	.0088	.00409	.00712	.00282
%RSD	.66724	.87236	.45037	.77400	.28595

#1	1.0020	.99721	.90541	.91504	.98467
#2	1.0115	1.0096	.91120	.92511	.98866

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
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High  
Low

Unit Std	1	2	3	4	5	6	7
Counts	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Y	Y	--	--	--	--	--	--
371.030	371.030	--	--	--	--	--	--
9754	9754	--	--	--	--	--	--
81.78270	81.78270	--	--	--	--	--	--
.8384638	.8384638	--	--	--	--	--	--
9812	9812	--	--	--	--	--	--
9696	9696	--	--	--	--	--	--

## Analysis Report

07/27/00 12:34:54 PM

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Method: 60102007 Sample Name: 007540-1

Operator: GSP

Run Time: 07/27/00 12:29:59

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00010	.15165	.00439	.02181	.01946	.00014	31.493
SDev	.00018	.00051	.00057	.00082	.00005	.00001	.009
%RSD	170.19	.33603	12.949	3.7826	.24056	7.5771	.02980
#1	.00002	.15201	.00399	.02123	.01942	.00015	31.486
#2	-.00023	.15129	.00479	.02239	.01949	.00013	31.500
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000
Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00037	-.00028	.00108	.00738	L.02518	.01650	1.3360
SDev	.00010	.00009	.00029	.00008	.00110	.00021	.0013
%RSD	27.818	31.232	27.153	1.1062	4.3506	1.2807	.10090
#1	.00030	-.00034	.00129	.00732	L.02595	.01665	1.3370
#2	.00044	-.00021	.00088	.00744	L.02440	.01635	1.3351
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000
Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.1502	.00078	.00158	8.2642	.00055	.00415	-.00297
SDev	.0113	.00000	.00039	.0778	.00066	.00082	.00148
%RSD	.13905	.21833	24.484	.94098	120.56	19.753	49.962
#1	8.1421	.00078	.00185	8.3192	.00008	.00357	-.00402
#2	8.1582	.00078	.00130	8.2092	.00101	.00473	-.00192
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000
Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00637	.00179	.14857	.00028	-.00327	.00074	.01800
SDev	.00059	.00054	.00023	.00007	.00117	.00039	.00025
%RSD	9.2409	30.179	.15199	26.066	35.912	52.277	1.3910
#1	.00679	.00141	.14841	.00033	-.00244	.00102	.01783
#2	.00596	.00218	.14873	.00023	-.00410	.00047	.01818
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000
Elem	2203/1	2203/2	1960/1	1960/2	Li6707		

Units	ppm	ppm	ppm	ppm	ppm
Avge	.00925	.00160	-.01299	.00204	.00205
SDev	.00194	.00220	.00105	.00170	.00003
%RSD	20.943	136.85	8.0621	83.570	1.3826
#1	.01062	.00005	-.01373	.00083	.00207
#2	.00788	.00316	-.01225	.00324	.00203
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High					
Low					

IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	---	---	---	---	---	---
Wavlen	371.030	---	---	---	---	---	---
Avge	9656	---	---	---	---	---	---
SDev	14.47912	---	---	---	---	---	---
%RSD	.1499547	---	---	---	---	---	---
#1	9645	---	---	---	---	---	---
#2	9666	---	---	---	---	---	---

## Analysis Report

07/27/00 12:39:57 PM

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Sample Name: 007540-1L

Operator: GSP

Time: 07/27/00 12:35:02

Element:

Conc: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00018	.03307	.00107	.00420	.00389	.00006	6.5357
SDev	.00006	.00371	.00080	.00060	.00005	.00002	.0661
%RSD	32.116	11.208	75.049	14.250	1.2877	27.985	1.0115
#1	-.00023	.03569	.00050	.00378	.00393	.00008	6.5824
#2	-.00014	.03045	.00163	.00463	.00386	.00005	6.4889
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000
Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00013	-.00037	.00086	.00146	L.01236	.00407	.27687
SDev	.00007	.00026	.00011	.00006	.00096	.00021	.00602
%RSD	53.417	68.655	12.647	3.8850	7.7909	5.1107	2.1751
#1	.00018	-.00056	.00094	.00142	L.01304	.00422	.28113
#2	.00008	-.00019	.00078	.00150	L.01168	.00392	.27261
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000
Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.6708	.00020	.00012	1.6839	.00045	.00217	-.00124
SDev	.0162	.00003	.00015	.1185	.00068	.00005	.00134
%RSD	.97025	12.801	126.25	7.0346	151.15	2.3103	107.94
#1	1.6823	.00022	.00001	1.7677	.00093	.00213	-.00029
#2	1.6594	.00018	.00022	1.6002	-.00003	.00220	-.00219
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000
Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00134	.00154	.02993	.00007	-.00171	.00005	.00434
SDev	.00020	.00068	.00029	.00018	.00044	.00006	.00005
%RSD	15.154	43.934	.98052	256.51	25.982	130.43	1.1264
#1	.00120	.00202	.03013	.00020	-.00202	.00010	.00431
#2	.00149	.00106	.02972	-.00006	-.00139	.00000	.00438
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000
Elem	2203/1	2203/2	1960/1	1960/2	Li6707		

ppm	ppm	ppm	ppm	ppm
.00299	.00176	-.00306	-.00034	.00040
.00057	.00021	.00032	.00185	.00002
18.930	11.824	10.464	550.26	4.0804
.00259	.00190	-.00283	.00097	.00041
.00339	.00161	-.00329	-.00165	.00039
NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK

Std	1	2	3	4	5	6	7
Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Y	---	---	---	---	---	---	---
371.030	---	---	---	---	---	---	---
9927	---	---	---	---	---	---	---
88.43254	---	---	---	---	---	---	---
.8908590	---	---	---	---	---	---	---
9864	---	---	---	---	---	---	---
9989	---	---	---	---	---	---	---



Sample: 60102007 Sample Name: 007540-1S  
 Date: 07/27/00 12:40:05

Operator: GSP

Method: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.52130	10.145	1.0064	1.0028	1.0439	.50918	41.834
SDev	.00766	.173	.0134	.0127	.0169	.00843	.714
%RSD	1.4698	1.7081	1.3341	1.2688	1.6168	1.6558	1.7074

#1	.51588	10.023	.99695	.99385	1.0320	.50322	41.329
#2	.52672	10.268	1.0159	1.0118	1.0559	.51514	42.339

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000

Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.50499	1.0172	1.0267	1.0372	10.240	10.307	11.454
SDev	.00824	.0170	.0170	.0160	.174	.183	.150
%RSD	1.6319	1.6711	1.6606	1.5390	1.6969	1.7767	1.3098

#1	.49917	1.0052	1.0146	1.0259	10.117	10.178	11.348
#2	.51082	1.0292	1.0387	1.0485	10.363	10.437	11.560

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000

Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	18.412	1.0254	1.0675	18.449	1.0169	1.0183	.92744
SDev	.316	.0175	.0221	.314	.0154	.0098	.00436
%RSD	1.7170	1.7107	2.0668	1.7029	1.5110	.96726	.47048

#1	18.189	1.0130	1.0519	18.227	1.0061	1.0113	.92436
#2	18.636	1.0378	1.0831	18.671	1.0278	1.0252	.93053

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000

Elem	Sb2068	Sn1899	Sr4215	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.0306	1.0674	1.1825	1.0600	1.0078	1.0258	1.0306
SDev	.0206	.0162	.0217	.0184	.0109	.0175	.0169
%RSD	1.9979	1.5163	1.8332	1.7383	1.0843	1.7085	1.6447

#1	1.0161	1.0560	1.1672	1.0470	1.0001	1.0134	1.0186
#2	1.0452	1.0789	1.1979	1.0730	1.0155	1.0382	1.0425

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000

Elem	2203/1	2203/2	1960/1	1960/2	Li6707
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Units	ppm	ppm	ppm	ppm	ppm
Avg	1.0226	1.0161	.91854	.93189	1.0334
SD	.0119	.0088	.00162	.00573	.0234
%RSD	1.1681	.86637	.17617	.61532	2.2656

#1	1.0141	1.0099	.91740	.92783	1.0168
#2	1.0310	1.0223	.91969	.93594	1.0499

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High					
Low					

IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Len	Y	--	--	--	--	--	--
Avlen	371.030	--	--	--	--	--	--
Age	9540	--	--	--	--	--	--
Dev	102.8647	--	--	--	--	--	--
RSD	1.078224	--	--	--	--	--	--
#1	9613	--	--	--	--	--	--
#2	9467	--	--	--	--	--	--

## Analysis Report

07/27/00 12:50:03 PM

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Method: 60102007 Sample Name: 007540-1SD

Operator: GSP

Run Time: 07/27/00 12:45:08

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.52329	10.140	1.0121	1.0077	1.0410	.51386	42.721
SDev	.00339	.073	.0095	.0064	.0067	.00325	.284
%RSD	.64719	.71729	.94195	.63515	.63964	.63231	.66379

#1	.52089	10.088	1.0054	1.0032	1.0363	.51157	42.521
#2	.52568	10.191	1.0189	1.0122	1.0457	.51616	42.922

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000

Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.51025	1.0230	1.0330	1.0323	L10.289	10.366	11.421
SDev	.00252	.0063	.0080	.0047	.063	.066	.065
%RSD	.49341	.61735	.77430	.45657	.61297	.63862	.57016

#1	.50847	1.0185	1.0273	1.0289	L10.245	10.319	11.375
#2	.51203	1.0274	1.0386	1.0356	L10.334	10.413	11.467

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000

Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.675	1.0305	1.0766	18.763	1.0229	1.0265	.93753
SDev	.116	.0068	.0085	.175	.0075	.0060	.00605
%RSD	.62128	.66418	.78594	.93518	.73111	.57987	.64556

#1	18.593	1.0256	1.0706	18.639	1.0176	1.0223	.93325
#2	18.757	1.0353	1.0826	18.887	1.0282	1.0307	.94181

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000

Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.0391	1.0738	1.1822	1.0643	1.0085	1.0299	1.0455
SDev	.0062	.0045	.0083	.0066	.0025	.0062	.0075
%RSD	.59869	.41843	.70517	.61608	.24533	.59783	.71622

#1	1.0347	1.0706	1.1763	1.0596	1.0067	1.0256	1.0402
#2	1.0435	1.0770	1.1881	1.0689	1.0102	1.0343	1.0508

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000

Elem	2203/1	2203/2	1960/1	1960/2	L16707
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Units	ppm	ppm	ppm	ppm	ppm
Avge	1.0279	1.0258	.93283	.93988	1.0351
SDev	.0082	.0048	.00503	.00656	.0055
%RSD	.79493	.47228	.53967	.69802	.52920
#1	1.0221	1.0223	.92927	.93524	1.0312
#2	1.0337	1.0292	.93639	.94451	1.0389
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High					
Low					

IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	---	---	---	---	---	---
Wavlen	371.030	---	---	---	---	---	---
Avge	9632	---	---	---	---	---	---
SDev	27.30786	---	---	---	---	---	---
%RSD	.2835202	---	---	---	---	---	---
#1	9651	---	---	---	---	---	---
#2	9612	---	---	---	---	---	---

## Analysis Report

07/27/00 12:55:06 PM

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50102007

Sample Name: 007534-1

Operator: GSP

07/27/00 12:50:11

CONC Corr. Factor: 1

Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
ppm	ppm	ppm	ppm	ppm	ppm	ppm
.00008	.92204	.00179	.02388	.10873	.00021	6.6639
SDev .00015	.01171	.00125	.00034	.00007	.00001	.0189
%RSD 177.01	1.2705	70.129	1.4244	.06881	5.8240	.28407
#1 -.00002	.91376	.00267	.02412	.10868	.00022	6.6505
#2 .00019	.93032	.00090	.02364	.10879	.00020	6.6773
Errors LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High 10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low -.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000
Elem Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg .00031	.00060	.01683	.00356	L1.7211	1.7412	H57.765
SDev .00022	.00020	.00002	.00012	.0069	.0045	.012
%RSD 71.702	33.155	.11735	3.2426	.40383	.25614	.02131
#1 .00015	.00074	.01682	.00348	L1.7162	1.7380	H57.756
#2 .00046	.00046	.01685	.00364	L1.7260	1.7443	H57.774
Errors LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC High
High 20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low -.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000
Elem Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg 1.9975	.43169	.00352	50.678	.00327	.00303	-.00001
SDev .0017	.00059	.00097	.157	.00045	.00119	.00289
%RSD .08398	.13591	27.656	.30971	13.709	39.451	23602.
#1 1.9963	.43128	.00420	50.567	.00295	.00218	-.00205
#2 1.9987	.43211	.00283	50.789	.00358	.00387	.00203
Errors LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High 500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low -.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000
Elem Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg .00581	.00290	.56614	.03095	-.00626	.00278	.02418
SDev .00115	.00086	.00011	.00027	.00149	.00031	.00009
%RSD 19.731	29.657	.01978	.87778	23.825	11.266	.37265
#1 .00500	.00229	.56606	.03076	-.00731	.00256	.02412
#2 .00662	.00350	.56622	.03114	-.00520	.00300	.02425
Errors LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High 50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low -.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000
Elem 2203/1	2203/2	1960/1	1960/2	Li6707		

ppm	ppm	ppm	ppm	ppm	ppm
.00371	.00269	-.00828	.00411	.36345	
.00053	.00153	.00761	.00053	.00209	
14.186	56.871	91.909	12.920	.57490	
.00334	.00161	-.01366	.00374	.36493	
.00408	.00377	-.00290	.00449	.36197	
NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	

1	2	3	4	5	6	7
Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Y	--	--	--	--	--	--
371.030	--	--	--	--	--	--
9805	--	--	--	--	--	--
18.91303	--	--	--	--	--	--
.1928826	--	--	--	--	--	--
9792	--	--	--	--	--	--
9819	--	--	--	--	--	--

Method: 60102007 Sample Name: ICV/CCV

Operator: GSP

Run Time: 07/27/00 12:55:14

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.49587	10.040	1.0028	.99642	.99548	.50888	10.311
SDev	.00085	.014	.0050	.00366	.00018	.00085	.027
SRSD	.17066	.13705	.49799	.36764	.01810	.16782	.26670

#1	.49647	10.050	1.0063	.99383	.99560	.50948	10.330
#2	.49527	10.030	.99924	.99901	.99535	.50827	10.291

Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.50000	10.000	1.0000	1.0000	1.0000	.50000	10.000
Range	10.000	10.000	10.000	10.000	10.000	10.000	10.000

Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.51099	1.0101	1.0113	.98748	10.184	10.210	9.7484
SDev	.00134	.0024	.0020	.00017	.033	.013	.0088
SRSD	.26141	.24185	.20147	.01746	.32074	.12627	.09011

#1	.51193	1.0118	1.0127	.98736	10.207	10.219	9.7422
#2	.51004	1.0084	1.0099	.98760	10.161	10.201	9.7546

Errors	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass
Value	.50000	1.0000	1.0000	1.0000		10.000	10.000
Range	10.000	10.000	10.000	10.000		10.000	10.000

Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	10.193	1.0090	1.0029	9.5897	1.0127	1.0136	1.0162
SDev	.013	.0012	.0033	.0439	.0011	.0007	.0004
SRSD	.12914	.12224	.33078	.45813	.10683	.07199	.04177

#1	10.203	1.0098	1.0006	9.6208	1.0135	1.0141	1.0159
#2	10.184	1.0081	1.0053	9.5587	1.0119	1.0131	1.0165

Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10.000	1.0000	1.0000	10.000	1.0000	1.0000	1.0000
Range	10.000	10.000	10.000	10.000	10.000	10.000	10.000

Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.96555	1.0127	1.0080	.98931	1.0027	1.0030	1.0332
SDev	.00914	.0016	.0016	.00094	.0052	.0009	.0032
SRSD	.94643	.15874	.16145	.09463	.52073	.09457	.31180

#1	.95908	1.0138	1.0069	.98997	.99900	1.0036	1.0355
#2	.97201	1.0115	1.0092	.98865	1.0064	1.0023	1.0309

Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Range	10.000	10.000	10.000	10.000	10.000	10.000	10.000

Elem	2203/1	2203/2	1960/1	1960/2	L16707
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Units	ppm	ppm	ppm	ppm	ppm
Avg	1.0102	1.0153	1.0223	1.0132	.99061
SDev	.0036	.0007	.0034	.0023	.00498
%RSD	.35698	.06959	.33325	.23069	.50238

#1	1.0128	1.0148	1.0247	1.0115	.98709
#2	1.0077	1.0158	1.0199	1.0148	.99413

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass
Value					1.0000
Range					10.000

IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	---	---	---	---	---	---
Avlen	371.030	---	---	---	---	---	---
Avg	9726	---	---	---	---	---	---
SDev	33.34520	---	---	---	---	---	---
%RSD	.3428450	---	---	---	---	---	---
#1	9702	---	---	---	---	---	---
#2	9750	---	---	---	---	---	---



Method: 60102007 Sample Name: ICB/CCB

Operator: GSP

Run Time: 07/27/00 13:00:17

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00084	.02950	.00272	.00305	.00090	.00053	.02552
SDev	.00070	.00383	.00176	.00013	.00011	.00004	.00019
%RSD	83.295	12.994	64.627	4.4003	12.267	6.7577	.76593

#1	.00133	.03222	.00147	.00296	.00098	.00055	.02566
#2	.00035	.02679	.00396	.00315	.00082	.00050	.02538

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.00500	.10000	.00500	.10000	.01000	.00300	.50000
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000

Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00062	.00088	.00156	.00038	.02291	.01405	-.00546
SDev	.00005	.00042	.00022	.00016	.01065	.00077	.00430
%RSD	7.4048	47.474	13.892	41.769	46.463	5.4894	78.770

#1	.00059	.00117	.00171	.00026	.03044	.01459	-.00850
#2	.00066	.00058	.00141	.00049	.01539	.01350	-.00242

Errors	LC Pass	LC Pass	LC Pass	LC Pass	NOCHECK	LC Pass	LC Pass
High	.00500	.01000	.00500	.01000		.10000	1.0000
Low	-.00500	-.01000	-.00500	-.01000		-.10000	-1.0000

Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02363	.00087	.00195	.00181	.00141	.00060	-.00169
SDev	.00201	.00014	.00015	.01802	.00088	.00135	.00033
%RSD	8.5215	16.231	7.8958	997.46	62.717	226.47	19.652

#1	.02505	.00097	.00184	.01455	.00203	.00155	-.00193
#2	.02220	.00077	.00206	-.01093	.00078	-.00036	-.00146

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.50000	.01000	.01000	1.0000	.00500	.00500	.01000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000

Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00252	.00362	.00090	.00120	.00054	.00103	.00061
SDev	.00244	.00072	.00004	.00017	.00077	.00005	.00023
%RSD	96.986	19.964	4.3944	14.083	142.67	4.9584	38.215

#1	.00425	.00311	.00092	.00132	-.00000	.00099	.00078
#2	.00079	.00413	.00087	.00108	.00108	.00106	.00045

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.05000	.01000	.00500	.00500	.01000	.01000	.02000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000

Elem	2203/1	2203/2	1960/1	1960/2	Li6707
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Units	ppm	ppm	ppm	ppm	ppm
Avge	-.00041	.00110	-.00156	-.00176	.00082
SDev	.00097	.00251	.00170	.00035	.00001
SRSD	235.61	228.18	109.56	19.964	.74985
#1	-.00110	.00287	-.00276	-.00151	.00081
#2	.00027	-.00067	-.00035	-.00201	.00082
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	LC Pass
High					.05000
Low					-.05000

IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	9908	--	--	--	--	--	--
SDev	70.27495	--	--	--	--	--	--
SRSD	.7092688	--	--	--	--	--	--
#1	9858	--	--	--	--	--	--
#2	9958	--	--	--	--	--	--

Sample ID: 60102007 Sample Name: 007534-2  
 Date: 07/27/00 13:05:20

Operator: GSP

Method: AAS-Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00031	1.3739	.00197	.01042	.01011	.00006	3.5619
SDev	.00029	.0012	.00035	.00044	.00002	.00001	.0126
%RSD	94.216	.08852	17.936	4.2073	.15056	15.783	.35319
#1	.00052	1.3730	.00222	.01073	.01010	.00006	3.5530
#2	.00010	1.3747	.00172	.01011	.01012	.00005	3.5708
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000
Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00045	-.00010	.01269	.00159	L1.2619	1.2878	.53995
SDev	.00020	.00014	.00016	.00045	.0029	.0056	.02513
%RSD	43.512	144.44	1.2986	28.202	.23196	.43596	4.6541
#1	.00059	-.00019	.01281	.00191	L1.2599	1.2838	.55772
#2	.00031	.00000	.01258	.00128	L1.2640	1.2918	.52218
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000
Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.4506	.03641	.00169	2.1738	.00177	.01129	-.00476
SDev	.0109	.00017	.00002	.0830	.00067	.00083	.00228
%RSD	.74918	.45902	1.3715	3.8196	38.052	7.3176	47.891
#1	1.4429	.03630	.00167	2.2325	.00129	.01188	-.00315
#2	1.4583	.03653	.00170	2.1151	.00224	.01071	-.00637
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000
Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00501	.00128	.01327	.02481	-.00271	.00126	.06812
SDev	.00033	.00070	.00001	.00000	.00374	.00012	.00019
%RSD	6.6460	54.521	.03534	.01744	137.83	9.8552	.28384
#1	.00524	.00177	.01327	.02481	-.00535	.00135	.06798
#2	.00477	.00079	.01328	.02481	-.00007	.00117	.06825
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000
Elem	2203/1	2203/2	1960/1	1960/2	Li6707		

	ppm	ppm	ppm	ppm	ppm
Units					
ave	.01432	.00978	-.01105	-.00162	.00055
Dev	.00337	.00044	.00531	.00077	.00006
RSD	23.530	4.5278	48.040	47.380	11.048
1	.01670	.00947	-.00730	-.00107	.00060
2	.01194	.01010	-.01481	-.00216	.00051
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High					
Low					

	1	2	3	4	5	6	7
Std	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Y	---	---	---	---	---	---	---
len	371.030	---	---	---	---	---	---
	9811	---	---	---	---	---	---
	14.66832	---	---	---	---	---	---
	.1495140	---	---	---	---	---	---
1	9821	---	---	---	---	---	---
2	9800	---	---	---	---	---	---

## Analysis Report

07/27/00 01:15:18 PM

page 1

Method: 60102007 Sample Name: 007534-3

Operator: GSP

Run Time: 07/27/00 13:10:23

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00008	.67051	.00178	.00698	.01547	.00007	.87645
SD	.00044	.00310	.00120	.00035	.00001	.00001	.00421
SRSD	535.07	.46207	67.189	5.0559	.05484	12.531	.48065

#1	.00023	.66832	.00094	.00723	.01546	.00008	.87347
#2	-.00039	.67271	.00263	.00673	.01547	.00007	.87943

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000

Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00014	-.00023	.01157	.00112	L.08869	.08565	.25301
SD	.00031	.00034	.00004	.00022	.00195	.00005	.01129
SRSD	214.39	145.64	.32880	19.458	2.1967	.06208	4.4619

#1	-.00007	.00001	.01160	.00128	L.08732	.08569	.26099
#2	.00036	-.00047	.01154	.00097	L.09007	.08562	.24502

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000

Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.88561	.00389	.00107	2.3747	.00129	.00172	-.00183
SD	.00658	.00001	.00108	.0521	.00059	.00022	.00191
SRSD	.74350	.34939	100.80	2.1919	45.900	12.529	104.23

#1	.88096	.00389	.00184	2.3379	.00171	.00157	-.00318
#2	.89027	.00388	.00031	2.4116	.00087	.00187	-.00048

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000

Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00630	-.00041	.00658	.01057	-.00507	.00089	.02024
SD	.00049	.00013	.00001	.00006	.00132	.00006	.00002
SRSD	7.7080	32.566	.11042	.55881	26.059	6.7824	.11564

#1	.00595	-.00051	.00658	.01052	-.00601	.00085	.02022
#2	.00664	-.00032	.00657	.01061	-.00414	.00094	.02026

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000

Elem	2203/1	2203/2	1960/1	1960/2	Li6707
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Units	ppm	ppm	ppm	ppm	ppm
Avg	.00461	.00028	-.00732	.00090	.00037
SDev	.00055	.00060	.00234	.00170	.00006
%RSD	11.947	215.80	31.941	187.65	15.670

#1	.00500	-.00015	-.00897	-.00030	.00041
#2	.00422	.00070	-.00566	.00211	.00033

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High					
Low					

IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	---	---	---	---	---	---
Wavlen	371.030	---	---	---	---	---	---
Avg	9748	---	---	---	---	---	---
SDev	32.49584	---	---	---	---	---	---
%RSD	.3333600	---	---	---	---	---	---
#1	9725	---	---	---	---	---	---
#2	9771	---	---	---	---	---	---

## Analysis Report

07/27/00 01:20:21 PM

page 1

Method: 60102007 Sample Name: 007534-4

Operator: GSP

Run Time: 07/27/00 13:15:26

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00015	1.8349	.00409	.00669	.01124	.00013	1.2425
SDev	.00047	.0130	.00158	.00021	.00007	.00003	.0001
%RSD	322.56	.70607	38.664	3.2027	.58908	24.348	.00470

#1	.00048	1.8257	.00297	.00654	.01128	.00015	1.2425
#2	-.00019	1.8440	.00521	.00685	.01119	.00011	1.2424

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000

Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00013	-.00031	.01530	.00177	L.24294	.22702	.28436
SDev	.00008	.00034	.00026	.00000	.00742	.00028	.02482
%RSD	65.484	110.28	1.7297	.21564	3.0552	.12308	8.7272

#1	.00018	-.00007	.01549	.00176	L.24819	.22722	.30191
#2	.00007	-.00054	.01511	.00177	L.23769	.22683	.26682

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000

Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.89743	.00392	.00177	2.1291	.00175	.00120	-.00386
SDev	.00433	.00003	.00030	.1151	.00045	.00080	.00083
%RSD	.48207	.76812	16.842	5.4064	25.916	66.519	21.422

#1	.90049	.00394	.00198	2.2105	.00143	.00064	-.00444
#2	.89437	.00390	.00156	2.0477	.00207	.00176	-.00327

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000

Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00407	-.00113	.00631	.02685	-.00777	.00142	.23783
SDev	.00071	.00124	.00003	.00067	.00131	.00039	.00070
%RSD	17.400	109.17	.42773	2.4754	16.807	27.160	.29527

#1	.00457	-.00201	.00633	.02638	-.00685	.00170	.23733
#2	.00357	-.00026	.00629	.02732	-.00869	.00115	.23833

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000

Elem	2203/1	2203/2	1960/1	1960/2	Li6707
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	ppm	ppm	ppm	ppm	ppm
1	.00234	.00063	-.01373	.00107	.00094
2	.00141	.00049	.00452	.00102	.00013
MSD	60.081	78.522	32.937	94.955	14.127
3	.00135	.00028	-.01693	.00179	.00103
4	.00334	.00098	-.01053	.00035	.00084
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High					
Low					

IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	---	---	---	---	---	---
AvLen	371.030	---	---	---	---	---	---
Mode	9783	---	---	---	---	---	---
Dev	18.29984	---	---	---	---	---	---
MSD	.1870648	---	---	---	---	---	---
1	9770	---	---	---	---	---	---
2	9796	---	---	---	---	---	---



60102007 Sample Name: 007534-5

Operator: GSP

Date: 07/27/00 13:20:30

DNC Corr. Factor: 1

	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	-.00008	.29552	.00306	.00846	.02526	.00010	1.9904
	.00021	.00397	.00163	.00093	.00030	.00002	.0270
	%RSD	245.96	1.3425	53.497	11.045	1.1691	24.534
	.00006	.29271	.00421	.00780	.02505	.00008	1.9713
	-.00023	.29832	.00190	.00912	.02546	.00012	2.0094
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000
Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00032	.00015	.02005	.01796	L.08023	.06641	.57104
SDev	.00027	.00006	.00009	.00018	.00321	.00026	.00896
%RSD	85.574	40.655	.45738	1.0126	4.0040	.39893	1.5688
#1	.00013	.00019	.01998	.01784	L.07795	.06622	.56470
#2	.00051	.00010	.02011	.01809	L.08250	.06659	.57737
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000
Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.7345	.01299	.00321	2.2863	.00305	.00220	-.00184
SDev	.0371	.00018	.00025	.1276	.00065	.00188	.00055
%RSD	1.3550	1.4009	7.8146	5.5809	21.326	85.537	30.006
#1	2.7083	.01286	.00338	2.3765	.00351	.00087	-.00223
#2	2.7607	.01312	.00303	2.1961	.00259	.00353	-.00145
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000
Elem	Sb2068	Sn1899	Sr4215	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00579	.00028	.01231	.00170	-.00669	.00037	.09334
SDev	.00236	.00064	.00015	.00021	.00066	.00019	.00100
%RSD	40.743	233.35	1.2123	12.508	9.8733	50.645	1.0674
#1	.00745	.00073	.01221	.00185	-.00622	.00050	.09264
#2	.00412	-.00018	.01242	.00155	-.00716	.00024	.09405
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000
Elem	2203/1	2203/2	1960/1	1960/2	Li6707		

Units	ppm	ppm	ppm	ppm	ppm
ave	.00477	.00092	-.01134	.00290	.00035
SDay	.00125	.00220	.00270	.00217	.00002
PRSD	26.184	239.57	23.789	74.876	6.2311
1	.00389	-.00064	-.00943	.00137	.00036
2	.00565	.00247	-.01325	.00444	.00033
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK

High  
Low

Unit	1	2	3	4	5	6	7
Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Y	---	---	---	---	---	---	---
371.030	---	---	---	---	---	---	---
9693	---	---	---	---	---	---	---
83.99931	---	---	---	---	---	---	---
.8665670	---	---	---	---	---	---	---
9753	---	---	---	---	---	---	---
9634	---	---	---	---	---	---	---

## Analysis Report

07/27/00 01:30:29 PM

page 1

Method: 60102007 Sample Name: 007534-6

Operator: GSP

Run Time: 07/27/00 13:25:34

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00104	4.3868	.00355	.02178	.00869	.00011	.48209
SDev	.00108	.0124	.00035	.00026	.00003	.00003	.00512
%RSD	104.30	.28338	9.8644	1.2067	.30340	28.068	1.0612

#1	.00027	4.3956	.00330	.02196	.00867	.00009	.47847
#2	.00180	4.3780	.00380	.02159	.00870	.00013	.48571

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000

Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00041	.00024	.01694	.00368	L3.5810	3.6497	.80211
SDev	.00010	.00003	.00077	.00086	.0162	.0186	.02896
%RSD	24.775	12.761	4.5757	23.486	.45368	.50853	3.6100

#1	.00034	.00022	.01639	.00307	L3.5695	3.6365	.78163
#2	.00048	.00026	.01749	.00429	L3.5925	3.6628	.82258

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000

Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm		
Avg	.98359	.03526	.00183	4.0537	.00221	.01327	-.00082
SDev	.00659	.00008	.00005	.2507	.00023	.00102	.00044
%RSD	.66982	.22966	2.9411	6.1842	10.331	7.7180	53.098

#1	.97893	.03520	.00187	3.8764	.00205	.01255	-.00113
#2	.98825	.03531	.00180	4.2309	.00237	.01400	-.00051

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000

Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00456	.00228	.00544	.03807	-.00664	.00427	.18810
SDev	.00058	.00099	.00006	.00081	.00054	.00100	.00231
%RSD	12.748	43.549	1.0884	2.1174	8.1960	23.424	1.2287

#1	.00497	.00158	.00540	.03864	-.00702	.00356	.18647
#2	.00415	.00298	.00548	.03750	-.00625	.00498	.18973

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000

Elem	2203/1	2203/2	1960/1	1960/2	Li6707
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Units	ppm	ppm	ppm	ppm	ppm
Avge	.02112	.00935	-.00659	.00206	.00138
SDev	.00793	.00242	.00441	.00155	.00016
%RSD	37.532	25.906	66.879	75.104	11.436

#1	.01552	.01106	-.00971	.00315	.00127
#2	.02673	.00764	-.00347	.00097	.00149

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High					
Low					

IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	---	---	---	---	---	---
Wavlen	371.030	---	---	---	---	---	---
Avge	9739	---	---	---	---	---	---
SDev	71.21753	---	---	---	---	---	---
%RSD	.7312262	---	---	---	---	---	---
#1	9689	---	---	---	---	---	---
#2	9790	---	---	---	---	---	---

## Analysis Report

07/27/00 01:35:32 PM

page 1

Method: 60102007 Sample Name: 007534-7

Operator: GSP

In Time: 07/27/00 13:30:37

Element:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00034	5.0702	-.00082	.01698	.01652	.00014	19.536
SDev	.00045	.0189	.00006	.00077	.00000	.00003	.003
%RSD	132.55	.37200	7.1784	4.5237	.01883	24.162	.01643

#1	.00066	5.0835	-.00078	.01643	.01652	.00017	19.538
#2	.00002	5.0569	-.00086	.01752	.01653	.00012	19.534

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000

Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00020	-.00019	.02298	.00322	L.64421	.65132	1.5949
SDev	.00003	.00015	.00033	.00004	.00386	.00043	.0024
%RSD	12.054	77.352	1.4495	1.2467	.59938	.06655	.15284

#1	.00019	-.00029	.02274	.00319	L.64694	.65163	1.5966
#2	.00022	-.00009	.02321	.00325	L.64148	.65101	1.5931

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000

Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.5650	.26054	.00219	3.5943	.00359	.00266	-.00106
SDev	.0034	.00006	.00063	.0037	.00078	.00008	.00026
%RSD	.07467	.02164	28.939	.10182	21.740	2.8753	24.800

#1	4.5674	.26050	.00174	3.5969	.00414	.00261	-.00124
#2	4.5626	.26058	.00263	3.5917	.00304	.00272	-.00087

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000

Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00506	.00083	.05959	.03004	-.00649	.00312	.01572
SDev	.00079	.00097	.00004	.00001	.00379	.00015	.00041
%RSD	15.703	116.55	.07061	.01802	58.362	4.6823	2.6298

#1	.00562	.00015	.05956	.03004	-.00381	.00323	.01601
#2	.00450	.00152	.05962	.03004	-.00917	.00302	.01542

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000

Elem	2203/1	2203/2	1960/1	1960/2	Li6707
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	ppm	ppm	ppm	ppm	ppm
	.00541	.00129	-.01070	.00376	.00110
	.00169	.00073	.00664	.00292	.00003
	31.291	56.730	62.033	77.752	2.2879
	.00422	.00181	-.01540	.00582	.00111
	.00661	.00077	-.00601	.00169	.00108
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK

High  
Low

IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Slam	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Wave	9614	--	--	--	--	--	--
Spav	51.31427	--	--	--	--	--	--
SD	.5337524	--	--	--	--	--	--
#1	9578	--	--	--	--	--	--
#2	9650	--	--	--	--	--	--

## Analysis Report

07/27/00 01:40:35 PM

page 1

Sample Name: 007534-8

Operator: GSP

Time: 07/27/00 13:35:40

Unit:

Type: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00014	.99517	.00262	.02664	.02089	.00009	16.646
SDev	.00023	.00298	.00140	.00057	.00001	.00000	.027
%RSD	161.65	.29931	53.220	2.1431	.05903	1.7814	.15961

#1	-.00002	.99727	.00164	.02704	.02090	.00010	16.627
#2	.00031	.99306	.00361	.02624	.02088	.00009	16.665

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000

Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00014	-.00065	.01857	.00126	L.86668	.86547	2.1044
SDev	.00002	.00003	.00020	.00019	.00482	.00162	.0050
%RSD	13.362	4.0223	1.0748	15.356	.55571	.18767	.23545

#1	.00015	-.00064	.01843	.00113	L.87009	.86432	2.1079
#2	.00013	-.00067	.01871	.00140	L.86328	.86662	2.1009

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000

Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.9203	.26236	.00333	8.3220	.00300	.00083	-.00354
SDev	.0052	.00018	.00031	.0384	.00020	.00224	.00161
%RSD	.17656	.07036	9.4311	.46083	6.5782	269.56	45.465

#1	2.9167	.26223	.00311	8.3491	.00286	.00241	-.00467
#2	2.9240	.26249	.00356	8.2949	.00314	-.00075	-.00240

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000

Elem	Sb2068	Sn1899	Sr4215	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00654	.00020	.04218	.02866	-.00378	.00309	.09641
SDev	.00155	.00074	.00008	.00030	.00084	.00019	.00049
%RSD	23.778	373.56	.18058	1.0462	22.200	6.0825	.51277

#1	.00544	-.00033	.04213	.02887	-.00319	.00296	.09606
#2	.00763	.00072	.04224	.02845	-.00437	.00322	.09676

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000

Elem	2203/1	2203/2	1960/1	1960/2	Li6707		
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Units	ppm	ppm	ppm	ppm	ppm
Avg	.00156	.00047	-.01510	.00223	.00042
SDev	.00352	.00160	.00256	.00113	.00000
%RSD	226.35	341.30	16.951	50.704	.06611

#1	.00405	.00160	-.01690	.00143	.00042
#2	-.00093	-.00066	-.01329	.00304	.00042

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
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High  
Low

Std	1	2	3	4	5	6	7
Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Y	---	---	---	---	---	---	---
371.030	---	---	---	---	---	---	---
9772	---	---	---	---	---	---	---
5.754219	---	---	---	---	---	---	---
.0588847	---	---	---	---	---	---	---
9768	---	---	---	---	---	---	---
9776	---	---	---	---	---	---	---



## Analysis Report

07/27/00 01:45:39 PM

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Method: 60102007 Sample Name: 007534-9

Operator: GSP

Run Time: 07/27/00 13:40:44

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00038	.17059	.00254	.01117	.01178	.00006	11.781
SDev	.00038	.00243	.00057	.00180	.00011	.00001	.041
%RSD	102.28	1.4219	22.457	16.145	.91838	24.572	.34544

#1	-.00010	.17230	.00295	.00990	.01170	.00005	11.752
#2	-.00065	.16887	.00214	.01245	.01185	.00007	11.809

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000

Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00025	-.00056	.01255	.00047	L.07465	.06257	1.1976
SDev	.00019	.00020	.00026	.00023	.00366	.00048	.0168
%RSD	75.426	35.783	2.0468	50.020	4.8999	.76967	1.4065

#1	.00039	-.00042	.01273	.00063	L.07724	.06223	1.2095
#2	.00012	-.00070	.01237	.00030	L.07207	.06291	1.1857

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000

Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.1868	.13797	.00154	2.8925	.00127	.00040	-.00125
SDev	.0130	.00065	.00038	.0103	.00054	.00075	.00040
%RSD	.40868	.47289	25.040	.35652	42.216	185.06	32.333

#1	3.1776	.13751	.00126	2.8852	.00089	.00093	-.00096
#2	3.1960	.13843	.00181	2.8998	.00165	-.00012	-.00153

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000

Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00576	-.00006	.03085	.00425	-.00614	.00067	.06366
SDev	.00024	.00078	.00008	.00009	.00050	.00013	.00124
%RSD	4.0865	1197.3	.26473	2.1213	8.1073	19.147	1.9443

#1	.00593	-.00061	.03080	.00418	-.00579	.00058	.06278
#2	.00560	.00048	.03091	.00431	-.00649	.00076	.06453

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000

Elem	2203/1	2203/2	1960/1	1960/2	Li6707
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## Analysis Report

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Units	ppm	ppm	ppm	ppm	ppm
Avg	.00169	-.00024	-.01487	.00555	.00012
SDev	.00300	.00038	.00084	.00102	.00001
%RSD	177.67	159.13	5.6584	18.443	10.377

#1	.00381	-.00051	-.01547	.00628	.00012
#2	-.00043	.00003	-.01428	.00483	.00011

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
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High  
Low

IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	---	---	---	---	---	---
Wavlen	371.030	---	---	---	---	---	---
Avg	9725	---	---	---	---	---	---
SDev	26.74162	---	---	---	---	---	---
%RSD	.2749905	---	---	---	---	---	---
#1	9743	---	---	---	---	---	---
#2	9706	---	---	---	---	---	---

60102007 Sample Name: 007519-1  
Date: 07/27/00 13:45:47

Operator: GSP

CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00027	.02026	.00121	.83299	.05449	.00010	3.2353
SDev	.00023	.00580	.00062	.00665	.00022	.00001	.0218
%RSD	86.673	28.612	51.176	.79784	.40262	11.937	.67456
#1	.00011	.02436	.00077	.83769	.05465	.00011	3.2507
#2	.00044	.01616	.00165	.82829	.05434	.00009	3.2199
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000
Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00022	.00021	.00093	.00274	.04329	.03037	7.0142
SDev	.00006	.00034	.00024	.00005	.00826	.00029	.0453
%RSD	26.551	157.50	25.431	1.8177	19.070	.96708	.64553
#1	.00018	.00002	.00076	.00278	.04913	.03057	7.0462
#2	.00026	.00045	.00110	.00271	.03745	.03016	6.9822
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000
Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.9568	.00293	.00002	H224.41	.00085	.00050	-.00157
SDev	.0156	.00020	.00049	1.07	.00036	.00155	.00098
%RSD	.79873	6.6771	2217.3	.47903	41.638	309.32	62.259
#1	1.9679	.00307	-.00032	H225.17	-.00060	.00160	-.00226
#2	1.9458	.00279	.00037	H223.65	-.00111	-.00060	-.00088
Errors	LC Pass	LC Pass	LC Pass	LC High	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000
Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00479	-.00051	1.2316	-.00003	-.00391	.00038	.02763
SDev	.00104	.00065	.0055	.00017	.00020	.00000	.00035
%RSD	21.751	126.18	.44347	639.06	5.1944	1.1163	1.2725
#1	.00553	-.00006	1.2355	.00009	-.00376	.00038	.02788
#2	.00405	-.00097	1.2277	-.00015	-.00405	.00038	.02738
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000
Elem	2203/1	2203/2	1960/1	1960/2	Li6707		

ppm	ppm	ppm	ppm	ppm
.00280	-.00064	-.00884	.00206	.02088
.00023	.00245	.00100	.00096	.00023
8.2349	379.45	11.347	46.693	1.1220
.00264	.00108	-.00955	.00138	.02105
.00296	-.00237	-.00813	.00274	.02072
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK

1	2	3	4	5	6	7
Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Y	--	--	--	--	--	--
371.030	--	--	--	--	--	--
9687	--	--	--	--	--	--
41.64541	--	--	--	--	--	--
.4299278	--	--	--	--	--	--
9657	--	--	--	--	--	--
9716	--	--	--	--	--	--

Sample Name: 007519-2

Operator: GSP

Time: 07/27/00 13:50:50

Comment:

Code: CDNC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00037	.01932	.00201	.70151	.06019	.00005	3.4232
SDev	.00050	.00294	.00119	.00115	.00032	.00001	.0113
%RSD	133.69	15.232	59.397	.16349	.53724	26.089	.33025
#1	.00073	.02140	.00117	.70232	.06042	.00006	3.4312
#2	.00002	.01724	.00285	.70070	.05997	.00004	3.4153
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000
Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00016	-.00056	.00120	.00528	L.09000	.08544	6.1468
SDev	.00007	.00016	.00011	.00022	.00479	.00102	.0419
%RSD	45.602	28.784	9.2882	4.1847	5.3182	1.1902	.68147
#1	.00021	-.00045	.00128	.00543	L.09339	.08616	6.1764
#2	.00011	-.00067	.00112	.00512	L.08662	.08472	6.1172
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000
Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.7638	.00332	.00421	H177.67	-.00170	.00081	-.00254
SDev	.0062	.00007	.00028	.38	.00068	.00026	.00086
%RSD	.35267	2.1057	6.6704	.21142	39.750	32.217	33.763
#1	1.7682	.00336	.00441	H177.93	-.00122	.00099	-.00315
#2	1.7594	.00327	.00401	H177.40	-.00218	.00062	-.00194
Errors	LC Pass	LC Pass	LC Pass	LC High	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000
Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00348	.00001	.93683	.00007	-.00386	.00021	.19105
SDev	.00252	.00088	.00283	.00013	.00045	.00012	.00035
%RSD	72.399	12561.	.30190	178.73	11.575	58.517	.18379
#1	.00527	-.00062	.93883	.00017	-.00355	.00012	.19129
#2	.00170	.00063	.93483	-.00002	-.00418	.00030	.19080
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000
Elem	2203/1	2203/2	1960/1	1960/2	Li6707		

Units	ppm	ppm	ppm	ppm	ppm
Avg	.00427	-.00092	-.00961	.00098	.01827
SD	.00097	.00087	.00060	.00099	.00012
%RSD	22.611	95.032	6.2608	100.35	.67906

#1	.00358	-.00030	-.01004	.00029	.01836
#2	.00495	-.00153	-.00919	.00168	.01818

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
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High  
Low

IntStd	1	2	3	4	5	6	7
Counts	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Y	Y	---	---	---	---	---	---
371.030	371.030	---	---	---	---	---	---
9784	9784	---	---	---	---	---	---
69.56715	69.56715	---	---	---	---	---	---
.7110451	.7110451	---	---	---	---	---	---
9735	9735	---	---	---	---	---	---
9833	9833	---	---	---	---	---	---

Method: 60102007 Sample Name: CCV1

Operator: GSP

Run Time: 07/27/00 13:55:54

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50198	10.033	1.0201	1.0098	1.0097	.52098	10.394
SDev	.00034	.003	.0038	.0031	.0005	.00006	.004
%RSD	.06803	.02879	.37198	.30527	.05361	.01079	.03657
#1	.50222	10.031	1.0227	1.0120	1.0101	.52094	10.391
#2	.50174	10.035	1.0174	1.0076	1.0094	.52102	10.397
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.50000	10.000	1.0000	1.0000	1.0000	.50000	10.000
Range	10.000	10.000	10.000	10.000	10.000	10.000	10.000
Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.52372	1.0375	1.0392	.99889	10.346	10.368	9.8617
SDev	.00104	.0000	.0006	.00054	.008	.003	.0094
%RSD	.19872	.00034	.06086	.05410	.07790	.02502	.09486
#1	.52298	1.0375	1.0388	.99928	10.352	10.366	9.8683
#2	.52445	1.0375	1.0396	.99851	10.341	10.369	9.8551
Errors	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass
Value	.50000	1.0000	1.0000	1.0000		10.000	10.000
Range	10.000	10.000	10.000	10.000		10.000	10.000
Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.313	1.0299	1.0186	9.7442	1.0272	1.0293	1.0365
SDev	.002	.0007	.0068	.1376	.0017	.0058	.0080
%RSD	.02332	.06953	.66653	1.4124	.16928	.56520	.77316
#1	10.312	1.0304	1.0138	9.6469	1.0260	1.0252	1.0309
#2	10.315	1.0294	1.0235	9.8415	1.0285	1.0334	1.0422
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10.000	1.0000	1.0000	10.000	1.0000	1.0000	1.0000
Range	10.000	10.000	10.000	10.000	10.000	10.000	10.000
Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.97558	1.0369	1.0162	1.0058	1.0310	1.0201	1.0684
SDev	.00443	.0022	.0010	.0000	.0014	.0002	.0003
%RSD	.45396	.21698	.09968	.00147	.13535	.02101	.02357
#1	.97245	1.0353	1.0169	1.0058	1.0300	1.0199	1.0685
#2	.97872	1.0385	1.0154	1.0058	1.0320	1.0202	1.0682
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Range	10.000	10.000	10.000	10.000	10.000	10.000	10.000
Elem	2203/1	2203/2	1960/1	1960/2	Li6707		

Units	ppm	ppm	ppm	ppm	ppm
Avg	1.0320	1.0279	1.0429	1.0333	1.0272
SDev	.0016	.0079	.0047	.0097	.0085
SRSD	.15707	.76976	.44875	.93662	.82698

#1	1.0309	1.0223	1.0396	1.0265	1.0332
#2	1.0332	1.0335	1.0462	1.0402	1.0212

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass
Value					1.0000
Range					10.000

IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avg	9983	--	--	--	--	--	--
SDev	22.87463	--	--	--	--	--	--
SRSD	.2291307	--	--	--	--	--	--
#1	9999	--	--	--	--	--	--
#2	9967	--	--	--	--	--	--



60102007 Sample Name: CCB1  
07/27/00 14:00:57

Operator: GSP

CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00043	.02266	.00298	.00142	.00043	.00029	.01482
SDev	.00023	.00003	.00159	.00029	.00006	.00004	.00053
%RSD	53.962	.10884	53.508	20.642	13.948	12.528	3.5878
#1	-.00060	.02268	.00410	.00163	.00047	.00032	.01519
#2	-.00027	.02265	.00185	.00122	.00039	.00026	.01444
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.00500	.10000	.00500	.10000	.01000	.00300	.50000
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000
Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00022	.00043	.00068	-.00009	.01682	.00762	-.01869
SDev	.00006	.00050	.00036	.00019	.00322	.00043	.00325
%RSD	29.304	117.19	53.644	218.35	19.131	5.6588	17.404
#1	.00026	.00007	.00042	-.00022	.01455	.00793	-.01639
#2	.00017	.00078	.00094	.00005	.01910	.00732	-.02099
Errors	LC Pass	LC Pass	LC Pass	LC Pass	NOCHECK	LC Pass	LC Pass
High	.00500	.01000	.00500	.01000		.10000	1.0000
Low	-.00500	-.01000	-.00500	-.01000		-.10000	-1.0000
Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01224	.00044	.00084	.00967	.00118	.00004	-.00163
SDev	.00076	.00002	.00017	.06813	.00064	.00005	.00289
%RSD	6.2462	5.2355	19.999	704.32	54.525	100.34	177.41
#1	.01170	.00046	.00096	-.03850	.00073	.00008	.00041
#2	.01278	.00043	.00072	.05785	.00164	.00001	-.00367
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.50000	.01000	.01000	1.0000	.00500	.00500	.01000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000
Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00477	.00075	.00048	.00075	-.00070	.00018	.00055
SDev	.00250	.00098	.00005	.00003	.00030	.00000	.00023
%RSD	52.299	130.25	10.166	4.2457	43.416	.47525	41.273
#1	.00654	.00006	.00051	.00077	-.00092	.00018	.00039
#2	.00301	.00144	.00044	.00073	-.00049	.00019	.00071
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.05000	.01000	.00500	.00500	.01000	.01000	.02000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000
Elem	2203/1	2203/2	1960/1	1960/2	Li6707		

Counts	ppm	ppm	ppm	ppm	ppm
1	-.00081	.00047	-.00033	-.00228	.00037
2	.00039	.00026	.00298	.00285	.00004
3	47.905	55.295	916.14	124.76	11.795
4	-.00109	.00066	.00178	-.00027	.00040
5	-.00054	.00029	-.00243	-.00429	.00034
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	LC Pass
High					.05000
Low					-.05000

Integrat	1	2	3	4	5	6	7
Counts	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Y	Y	---	---	---	---	---	---
Area	371.030	---	---	---	---	---	---
Height	9868	---	---	---	---	---	---
Width	13.91288	---	---	---	---	---	---
Area	.1409884	---	---	---	---	---	---
1	9858	---	---	---	---	---	---
2	9878	---	---	---	---	---	---

## Analysis Report

07/27/00 02:10:56 PM

page 1

Method: 60102007 Sample Name: 007525-1

Operator: GSP

Run Time: 07/27/00 14:06:01

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00111	1.6187	.00513	.06874	.02333	.00027	133.81
SDev	.00014	.0428	.00103	.00101	.00054	.00007	2.51
%RSD	12.818	2.6451	20.039	1.4710	2.3253	26.092	1.8729
#1	.00122	1.6489	.00440	.06945	.02371	.00031	135.58
#2	.00101	1.5884	.00585	.06802	.02295	.00022	132.03

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000

Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00062	.00560	.00940	.09583	L3.0407	3.1001	9.4761
SDev	.00016	.00017	.00017	.00264	.0575	.0610	.1660
%RSD	25.215	2.9560	1.7768	2.7544	1.8903	1.9682	1.7518
#1	.00073	.00572	.00951	.09770	L3.0814	3.1433	9.5934
#2	.00051	.00548	.00928	.09396	L3.0001	3.0570	9.3587

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000

Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.477	.06567	.00658	24.766	.00988	.00645	-.00083
SDev	.531	.00149	.00011	.345	.00024	.00050	.00133
%RSD	2.0055	2.2675	1.7177	1.3916	2.4498	7.7002	160.34
#1	26.852	.06673	.00666	25.010	.01006	.00680	-.00177
#2	26.101	.06462	.00650	24.522	.00971	.00610	.00011

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000

Elem	Sb2068	Sn1899	Sr4215	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00615	.00631	.12958	.02890	-.00983	.00506	.21951
SDev	.00114	.00013	.00267	.00075	.00152	.00015	.00415
%RSD	18.486	2.1045	2.0617	2.5766	15.458	2.9339	1.8930
#1	.00534	.00621	.13147	.02943	-.00876	.00495	.22245
#2	.00695	.00640	.12769	.02838	L-.01091	.00516	.21658

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000

Elem	2203/1	2203/2	1960/1	1960/2	L16707
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Units	ppm	ppm	ppm	ppm	ppm
Avg	.01048	.00443	-.01199	.00474	.05298
SDev	.00161	.00155	.00236	.00082	.00133
%RSD	15.367	34.925	19.695	17.294	2.5053

#1	.00934	.00553	-.01366	.00416	.05392
#2	.01162	.00334	-.01032	.00532	.05204

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High					
Low					

IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
wavlen	371.030	--	--	--	--	--	--
Avg	9645	--	--	--	--	--	--
SDev	204.7392	--	--	--	--	--	--
%RSD	2.122650	--	--	--	--	--	--
#1	9501	--	--	--	--	--	--
#2	9790	--	--	--	--	--	--

## Analysis Report

07/27/00 02:15:59 PM

page 1

Method: 60102007 Sample Name: 007543-3

Operator: GSP

Run Time: 07/27/00 14:11:04

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00029	.02842	.00242	-.00011	.00022	.00003	.08172
SDev	.00049	.00263	.00050	.00103	.00003	.00002	.00678
%RSD	171.81	9.2570	20.716	904.88	13.877	65.661	8.2966

#1	.00063	.03028	.00206	-.00084	.00024	.00005	.08651
#2	-.00006	.02656	.00277	.00061	.00020	.00002	.07693

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000

Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00015	-.00041	.00424	.00086	L.03978	.02981	.04056
SDev	.00025	.00036	.00009	.00010	.00261	.00042	.00017
%RSD	165.07	86.244	2.1114	11.482	6.5555	1.4222	.41522

#1	-.00003	-.00016	.00431	.00093	L.03794	.03011	.04068
#2	.00033	-.00067	.00418	.00079	L.04162	.02951	.04044

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000

Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.02448	.00673	-.00066	.40630	-.00005	-.00015	-.00342
SDev	.00112	.00000	.00029	.12392	.00049	.00070	.00000
%RSD	4.5900	.02097	44.334	30.500	1083.8	457.45	.04413

#1	.02528	.00673	-.00087	.49393	.00030	-.00065	-.00342
#2	.02369	.00674	-.00045	.31868	-.00039	.00034	-.00343

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000

Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00426	-.00032	.00021	.00029	-.00598	.00028	.01334
SDev	.00219	.00098	.00003	.00006	.00058	.00013	.00009
%RSD	51.375	304.14	13.033	20.370	9.7285	44.519	.64993

#1	.00271	-.00101	.00023	.00025	-.00557	.00037	.01340
#2	.00581	.00037	.00019	.00034	-.00639	.00019	.01328

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000

Elem	2203/1	2203/2	1960/1	1960/2	Li6707
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Units	ppm	ppm	ppm	ppm	ppm
Ave	.00245	-.00145	-.01083	.00027	.00005
SD	.00065	.00138	.00154	.00077	.00001
%RSD	26.682	95.005	14.241	281.69	24.157
#1	.00291	-.00243	-.00974	-.00027	.00006
#2	.00199	-.00048	-.01192	.00082	.00004

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High					
Low					

IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	---	---	---	---	---	---
Wavlen	371.030	---	---	---	---	---	---
Ave	9930	---	---	---	---	---	---
SD	30.09071	---	---	---	---	---	---
%RSD	.3030152	---	---	---	---	---	---
#1	9909	---	---	---	---	---	---
#2	9952	---	---	---	---	---	---

60102007 Sample Name: PBSPS145

Operator: GSP

07/27/00 14:16:08

CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Ave	.00021	.01748	.00144	.00081	-.00003	.00005	.02042
SDev	.00033	.00158	.00275	.00070	.00003	.00002	.00128
%RSD	155.37	9.0655	191.28	86.057	98.756	46.490	6.2705
#1	.00044	.01860	.00339	.00131	-.00005	.00007	.02132
#2	-.00002	.01636	-.00051	.00032	-.00001	.00003	.01951
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.00500	.10000	.00500	.10000	.01000	.00300	.50000
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000
Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Ave	.00037	-.00126	.00035	.00149	.02204	.00421	.02993
SDev	.00004	.00092	.00042	.00051	.01527	.00008	.03140
%RSD	11.063	72.782	121.64	33.905	69.265	1.8769	104.91
#1	.00034	-.00191	.00065	.00185	.01125	.00416	.05214
#2	.00040	-.00061	.00005	.00113	.03284	.00427	.00773
Errors	LC Pass	LC Pass	LC Pass	LC Pass	NOCHECK	LC Pass	LC Pass
High	.00500	.01000	.00500	.01000		.10000	1.0000
Low	-.00500	-.01000	-.00500	-.01000		-.10000	-1.0000
Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm		
Ave	.00025	.00008	-.00086	.13334	-.00281	.00153	-.00275
SDev	.00372	.00009	.00001	.05505	.00043	.00145	.00099
%RSD	1497.3	106.74	.79540	41.287	15.388	95.076	35.899
#1	-.00238	.00002	-.00087	.17227	-.00312	.00256	-.00206
#2	.00288	.00015	-.00086	.09441	-.00250	.00050	-.00345
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.50000	.01000	.01000	1.0000	.00500	.00500	.01000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000
Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Ave	.00810	H.02845	.00004	.00012	L-.01025	.00042	.00044
SDev	.00122	.00030	.00002	.00006	.00148	.00045	.00004
%RSD	15.037	1.0451	52.470	46.224	14.400	106.56	9.4727
#1	.00896	H.02824	.00006	.00008	-.00920	.00074	.00041
#2	.00724	H.02866	.00003	.00016	L-.01129	.00010	.00046
Errors	LC Pass	LC High	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	.05000	.01000	.00500	.00500	.01000	.01000	.02000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000
Elem	2203/1	2203/2	1960/1	1960/2	Li6707		

Counts	ppm	ppm	ppm	ppm	ppm
1	.00806	-.00173	-.02024	.00597	.00006
2	.00425	.00006	.00274	.00011	.00005
RSD	52.701	3.3789	13.544	1.9075	75.401
1	.01106	-.00169	-.01830	.00605	.00009
2	.00506	-.00177	-.02218	.00589	.00003
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	LC Pass
1					.05000
2					-.05000

Std	1	2	3	4	5	6	7
Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Y	---	---	---	---	---	---	---
371.030	---	---	---	---	---	---	---
9684	---	---	---	---	---	---	---
59.66283	---	---	---	---	---	---	---
.6160880	---	---	---	---	---	---	---
9642	---	---	---	---	---	---	---
9726	---	---	---	---	---	---	---



## Analysis Report

07/27/00 02:26:06 PM

page 1

Method: 60102007 Sample Name: LCSSPS145

Operator: GSP

Run Time: 07/27/00 14:21:11

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.76189	48.832	.80326	1.2888	1.5826	.54878	18.274
SD	.00237	.094	.00407	.0001	.0027	.00169	.064
%RSD	.31122	.19242	.50643	.00425	.17200	.30835	.34756

#1	.76021	48.765	.80038	1.2888	1.5807	.54759	18.229
#2	.76357	48.898	.80613	1.2888	1.5845	.54998	18.319

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000

Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.9610	.75824	.69858	.94084	87.034	H83.919	13.937
SD	.0097	.00197	.00278	.00004	.288	.273	.002
%RSD	.49401	.25910	.39837	.00406	.33094	.32535	.01134

#1	1.9542	.75685	.69661	.94086	86.831	H83.726	13.936
#2	1.9679	.75963	.70055	.94081	87.238	H84.112	13.938

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC High	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000

Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.773	1.6177	.70467	2.9813	1.0502	.58873	.59253
SD	.027	.0051	.00313	.0021	.0055	.00061	.00288
%RSD	.22876	.31544	.44397	.07113	.52810	.10420	.48594

#1	11.754	1.6141	.70246	2.9828	1.0463	.58830	.59049
#2	11.793	1.6213	.70689	2.9798	1.0542	.58917	.59457

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000

Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.23864	.72746	.90803	2.9084	.69694	1.1528	.81758
SD	.00213	.00058	.00135	.0099	.00283	.0051	.00213
%RSD	.89427	.07995	.14833	.34006	.40598	.44019	.25995

#1	.23713	.72787	.90708	2.9014	.69894	1.1492	.81608
#2	.24015	.72705	.90898	2.9154	.69494	1.1564	.81909

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000

Elem	2203/1	2203/2	1960/1	1960/2	Li6707
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Units	ppm	ppm	ppm	ppm	ppm		
Avge	.59946	.58338	.58151	.59803	.04855		
SDev	.00339	.00077	.00953	.00044	.00013		
%RSD	.56596	.13269	1.6384	.07353	.26173		
#1	.59706	.58393	.57478	.59834	.04864		
#2	.60186	.58283	.58825	.59772	.04846		
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK		
High							
Low							
IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	10245	--	--	--	--	--	--
SDev	19.47927	--	--	--	--	--	--
%RSD	.1901403	--	--	--	--	--	--
#1	10258	--	--	--	--	--	--
#2	10231	--	--	--	--	--	--

## Analysis Report

07/27/00 02:31:09 PM

page 1

Method: 60102007 Sample Name: 007543-1

Operator: GSP

Run Time: 07/27/00 14:26:14

Element:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.00008	66.507	.01415	.00458	.08444	.00089	.46261
SDev	.00003	1.536	.00032	.00113	.00219	.00010	.01091
%RSD	36.898	2.3089	2.2259	24.611	2.5938	11.769	2.3577

#1	-.00010	67.593	.01437	.00538	.08599	.00096	.47032
#2	-.00006	65.421	.01393	.00379	.08289	.00081	.45490

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000

Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00034	.00607	.04723	.02381	L37.705	37.770	.54394
SDev	.00010	.00023	.00156	.00094	.857	.828	.01867
%RSD	28.170	3.7214	3.3056	3.9661	2.2719	2.1933	3.4317

#1	.00040	.00591	.04833	.02447	L38.311	38.356	.55714
#2	.00027	.00623	.04612	.02314	L37.100	37.184	.53074

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000

Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.1054	.80798	.00135	.13635	.01419	.02846	-.00171
SDev	.0272	.01773	.00082	.07522	.00031	.00025	.00289
%RSD	2.4569	2.1945	60.755	55.165	2.1616	.89250	169.38

#1	1.1246	.82051	.00193	.18953	.01440	.02864	-.00375
#2	1.0862	.79544	.00077	.08316	.01397	.02828	.00034

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000

Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.01030	.02516	.00677	.59235	-.00753	.09357	.04742
SDev	.00027	.00021	.00014	.01373	.00134	.00266	.00100
%RSD	2.6088	.82613	2.0453	2.3184	17.749	2.8436	2.1083

#1	.01049	.02531	.00687	.60206	-.00848	.09545	.04813
#2	.01011	.02502	.00667	.58264	-.00659	.09169	.04672

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000

Elem	2203/1	2203/2	1960/1	1960/2	Li6707
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	ppm	ppm	ppm	ppm	ppm
1	.03170	.02684	-.01759	.00622	.02166
2	.00223	.00073	.00926	.00029	.00049
3	7.0314	2.7266	52.647	4.6114	2.2718
4	.03327	.02632	-.02413	.00642	.02201
5	.03012	.02736	-.01104	.00602	.02132
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High					
Low					

IntStd	1	2	3	4	5	6	7
Counts	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	---	---	---	---	---	---
Avlen	371.030	---	---	---	---	---	---
Avge	9861	---	---	---	---	---	---
SDev	234.6883	---	---	---	---	---	---
SRSD	2.379853	---	---	---	---	---	---
#1	9696	---	---	---	---	---	---
#2	10027	---	---	---	---	---	---

60102007 Sample Name: 007543-1L  
 Date: 07/27/00 14:31:18

Operator: GSP

CONC Corr. Factor: 1

Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
ppm	ppm	ppm	ppm	ppm	ppm	ppm
.00030	14.359	.00283	.00094	.01765	.00023	.11911
.00086	.023	.00021	.00087	.00007	.00001	.00016
284.32	.16088	7.5515	91.879	.40503	3.9736	.13213
.00091	14.343	.00268	.00033	.01770	.00023	.11923
-.00030	14.375	.00298	.00155	.01759	.00022	.11900
LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
10.000	500.00	50.000	50.000	25.000	10.000	500.00
-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000
Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
ppm	ppm	ppm	ppm	ppm	ppm	ppm
.00008	.00104	.01154	.00446	L8.0385	8.1689	.13630
.00006	.00052	.00004	.00000	.0169	.0091	.01253
71.797	50.086	.33199	.02463	.21029	.11085	9.1963
.00004	.00140	.01157	.00446	L8.0505	8.1753	.14517
.00013	.00067	.01151	.00446	L8.0266	8.1625	.12744
LC Pass	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	LC Pass
20.000	20.000	100.00	100.00	500.00	40.000	50.000
-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000
Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
ppm	ppm	ppm	ppm	ppm	ppm	ppm
.24562	.17126	.00003	.12772	.00396	.00621	-.00150
.00070	.00012	.00014	.08320	.00005	.00016	.00123
.28542	.07041	474.58	65.137	1.2718	2.6098	82.027
.24612	.17135	-.00007	.06889	.00400	.00633	-.00238
.24513	.17118	.00013	.18655	.00392	.00610	-.00063
LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
500.00	25.000	50.000	100.00	100.00	150.00	50.000
-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000
Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
ppm	ppm	ppm	ppm	ppm	ppm	ppm
.00257	.00764	.00145	.12351	-.00370	.01940	.01105
.00090	.00078	.00000	.00080	.00227	.00013	.00001
35.214	10.279	.05046	.64582	61.493	.68173	.05379
.00321	.00819	.00145	.12295	-.00530	.01949	.01106
.00193	.00708	.00145	.12407	-.00209	.01930	.01105
LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
50.000	20.000	10.000	20.000	20.000	100.00	50.000
-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000
2203/1	2203/2	1960/1	1960/2	L16707		

Units	ppm	ppm	ppm	ppm	ppm
Avg	.00949	.00458	-.00206	-.00122	.00462
SD	.00294	.00171	.00389	.00009	.00007
SRSD	30.935	37.339	188.56	7.6086	1.4947
1	.00741	.00578	-.00482	-.00116	.00467
2	.01157	.00337	.00069	-.00129	.00457
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK

Counts	1	2	3	4	5	6	7
Y	---	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
371.030	---	---	---	---	---	---	---
10000	---	---	---	---	---	---	---
34.18386	---	---	---	---	---	---	---
34.1832	---	---	---	---	---	---	---
10032	---	---	---	---	---	---	---
9984	---	---	---	---	---	---	---

Method: 60102007 Sample Name: 007543-1S

Operator: GSP

Run Time: 07/27/00 14:36:21

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50246	88.761	.95429	.91356	1.0959	.49876	10.409
SDev	.00041	.004	.00012	.00053	.0021	.00026	.016
%RSD	.08099	.00477	.01239	.05817	.19510	.05291	.15138

#1	.50274	88.758	.95421	.91319	1.0974	.49858	10.398
#2	.50217	88.764	.95438	.91394	1.0944	.49895	10.420

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000

Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49786	1.0142	1.0740	1.0313	48.257	H47.842	10.535
SDev	.00044	.0013	.0000	.0019	.001	.002	.033
%RSD	.08783	.12365	.00268	.18052	.00178	.00421	.31547

#1	.49817	1.0133	1.0740	1.0326	48.257	H47.841	10.558
#2	.49756	1.0151	1.0740	1.0300	48.258	H47.844	10.511

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC High	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000

Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.547	1.8252	1.0173	9.6133	1.0125	1.0171	.85730
SDev	.005	.0003	.0002	.0419	.0013	.0027	.00479
%RSD	.04721	.01478	.02027	.43537	.12656	.26990	.55891

#1	11.543	1.8254	1.0171	9.6429	1.0116	1.0151	.86069
#2	11.551	1.8250	1.0174	9.5837	1.0134	1.0190	.85391

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000

Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.70783	1.0422	1.0040	1.5861	.96865	1.1034	1.0730
SDev	.00110	.0021	.0016	.0003	.00069	.0017	.0010
%RSD	.15555	.19734	.15932	.01702	.07086	.15027	.09543

#1	.70861	1.0436	1.0052	1.5860	.96913	1.1022	1.0723
#2	.70705	1.0407	1.0029	1.5863	.96816	1.1046	1.0737

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000

Elem	2203/1	2203/2	1960/1	1960/2	Li6707
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## Analysis Report

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Units	ppm	ppm	ppm	ppm	ppm		
Avge	1.0298	1.0107	.85074	.86058	1.0210		
SDev	.0091	.0087	.01284	.00077	.0012		
%RSD	.88571	.85773	1.5098	.08963	.11968		
#1	1.0362	1.0046	.85982	.86112	1.0219		
#2	1.0233	1.0169	.84166	.86003	1.0202		
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK		
High							
Low							
IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	---	---	---	---	---	---
Wavlen	371.030	---	---	---	---	---	---
Avge	9529	---	---	---	---	---	---
SDev	37.35375	---	---	---	---	---	---
%RSD	.3920077	---	---	---	---	---	---
#1	9502	---	---	---	---	---	---
#2	9555	---	---	---	---	---	---



## Analysis Report

07/27/00 02:46:20 PM

page 1

Sample: 60102007 Sample Name: 007543-1SD

Operator: GSP

Time: 07/27/00 14:41:25

Amount:

Mode: CDNC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50305	93.158	.94693	.91549	1.1058	.49690	10.324
SDev	.00018	.024	.00614	.00077	.0012	.00427	.106
%RSD	.03515	.02548	.64884	.08402	.10607	.85861	1.0283

#1	.50317	93.141	.94258	.91604	1.1066	.49388	10.249
#2	.50292	93.174	.95127	.91495	1.1050	.49991	10.399

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000

Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.49249	1.0077	1.0751	1.0419	49.975	H49.596	10.679
SDev	.00461	.0081	.0089	.0026	.390	.319	.059
%RSD	.93630	.80149	.82961	.24833	.78010	.64260	.55118

#1	.48923	1.0020	1.0688	1.0437	49.699	H49.371	10.721
#2	.49575	1.0134	1.0814	1.0401	50.251	H49.821	10.638

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC High	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000

Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.537	1.8588	1.0142	9.4840	1.0101	1.0075	.84763
SDev	.090	.0128	.0071	.0823	.0093	.0067	.00981
%RSD	.77789	.68637	.69608	.86737	.91583	.66934	1.1573

#1	11.473	1.8497	1.0092	9.5422	1.0036	1.0027	.84069
#2	11.600	1.8678	1.0192	9.4258	1.0167	1.0123	.85456

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000

Elem	Sb2068	Sn1899	Sr4215	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.69650	1.0342	1.0116	1.6087	.96740	1.1074	1.0584
SDev	.00631	.0116	.0001	.0074	.00884	.0053	.0155
%RSD	.90590	1.1222	.01117	.46232	.91324	.48233	1.4656

#1	.69204	1.0260	1.0117	1.6035	.96115	1.1036	1.0474
#2	.70097	1.0424	1.0116	1.6140	.97365	1.1112	1.0693

Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000

Elem	2203/1	2203/2	1960/1	1960/2	Li6707
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Units	ppm	ppm	ppm	ppm	ppm
Avg	1.0207	1.0009	.83543	.85371	1.0379
SDev	.0046	.0078	.00605	.01169	.0085
%RSD	.45166	.78016	.72429	1.3689	.81628
#1	1.0175	.99539	.83116	.84545	1.0439
#2	1.0240	1.0064	.83971	.86198	1.0319
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High					
Low					

IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	---	---	---	---	---	---
Wavlen	371.030	---	---	---	---	---	---
Avg	9607	---	---	---	---	---	---
SDev	63.71902	---	---	---	---	---	---
%RSD	.6632584	---	---	---	---	---	---
#1	9562	---	---	---	---	---	---
#2	9652	---	---	---	---	---	---

Sample ID: 60102007 Sample Name: 007543-1A  
 Date: 07/27/00 14:46:28

Operator: GSP

Unit: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.46938	77.458	.93641	.89562	1.0527	.48343	10.147
SDev	.00103	.084	.00225	.00103	.0014	.00068	.019
%RSD	.22050	.10869	.24015	.11524	.12859	.14169	.18690
#1	.46865	77.398	.93482	.89635	1.0517	.48294	10.133
#2	.47011	77.518	.93800	.89489	1.0536	.48391	10.160
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000
Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.48331	.98520	1.0410	1.0028	48.073	H47.740	9.8367
SDev	.00103	.00014	.0038	.0003	.111	.116	.0107
%RSD	.21305	.01409	.36812	.02880	.23155	.24314	.10827
#1	.48258	.98510	1.0383	1.0030	47.994	H47.658	9.8443
#2	.48404	.98530	1.0437	1.0025	48.151	H47.822	9.8292
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC High	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000
Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.677	1.7962	.99364	9.1614	.97291	.97872	.81748
SDev	.011	.0041	.00328	.0659	.00131	.00038	.00209
%RSD	.10308	.22566	.33017	.71879	.13467	.03881	.25513
#1	10.670	1.7934	.99132	9.2080	.97384	.97845	.81895
#2	10.685	1.7991	.99596	9.1148	.97198	.97899	.81600
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000
Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.90861	1.0174	.97511	1.5816	.93851	1.0708	1.0290
SDev	.00256	.0001	.00198	.0036	.00643	.0015	.0005
%RSD	.28213	.00593	.20284	.22755	.68456	.14259	.05261
#1	.90680	1.0174	.97371	1.5790	.93397	1.0697	1.0286
#2	.91042	1.0174	.97651	1.5841	.94305	1.0719	1.0294
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000
Elem	2203/1	2203/2	1960/1	1960/2	Li6707		

Units	ppm	ppm	ppm	ppm	ppm
Avg	.99479	.97070	.80472	.82385	.98449
SD	.00382	.00248	.00631	.00002	.00095
RSD	.38414	.25521	.78385	.00270	.09676

1	.99749	.96895	.80918	.82383	.98516
2	.99208	.97245	.80026	.82387	.98381

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High					
Low					

Std	1	2	3	4	5	6	7
Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Y	---	---	---	---	---	---	---
371.030	---	---	---	---	---	---	---
9612	---	---	---	---	---	---	---
41.64610	---	---	---	---	---	---	---
.4332613	---	---	---	---	---	---	---
9583	---	---	---	---	---	---	---
9642	---	---	---	---	---	---	---

## Analysis Report

07/27/00 02:56:27 PM

page 1

Method: 60102007 Sample Name: 007543-2

Operator: GSP

Run Time: 07/27/00 14:51:32

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00002	69.840	.01431	.00328	.08749	.00097	.42698
SDev	.00012	.166	.00017	.00148	.00019	.00002	.00001
%RSD	565.26	.23774	1.2179	45.220	.21348	2.2574	.00330
#1	.00010	69.723	.01444	.00223	.08736	.00098	.42697
#2	-.00006	69.958	.01419	.00433	.08763	.00095	.42699
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.000	500.00	50.000	50.000	25.000	10.000	500.00
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000
Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00005	.00689	.04925	.02566	40.139	H40.044	.55853
SDev	.00014	.00051	.00046	.00020	.116	.123	.01467
%RSD	257.97	7.3353	.94021	.78710	.28831	.30794	2.6266
#1	.00015	.00653	.04958	.02581	40.057	39.957	.56890
#2	-.00004	.00724	.04892	.02552	40.221	H40.132	.54816
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC High	LC Pass
High	20.000	20.000	100.00	100.00	500.00	40.000	50.000
Low	-.00500	-.01000	-.00500	-.01000	40.000	-.10000	-1.0000
Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.1498	.86074	.00243	.24317	.01560	.02763	-.00271
SDev	.0014	.00250	.00095	.10665	.00098	.00038	.00046
%RSD	.11836	.29101	39.094	43.857	6.2549	1.3911	17.102
#1	1.1489	.85897	.00310	.31858	.01491	.02790	-.00303
#2	1.1508	.86251	.00176	.16776	.01629	.02735	-.00238
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	500.00	25.000	50.000	100.00	100.00	150.00	50.000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000
Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00995	.03041	.00652	.69064	-.00548	.09830	.04807
SDev	.00060	.00023	.00007	.00084	.00051	.00088	.00038
%RSD	6.0825	.76608	1.0759	.12147	9.3893	.89441	.79630
#1	.00952	.03058	.00657	.69005	-.00511	.09892	.04779
#2	.01038	.03025	.00647	.69123	-.00584	.09768	.04834
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	50.000	20.000	10.000	20.000	20.000	100.00	50.000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000
Elem	2203/1	2203/2	1960/1	1960/2	Li6707		

Units	ppm	ppm	ppm	ppm	ppm
Avge	.03413	.02438	-.01960	.00573	.02257
SDev	.00368	.00126	.00054	.00043	.00004
%RSD	10.773	5.1675	2.7318	7.4398	.19308
#1	.03673	.02349	-.01998	.00543	.02260
#2	.03153	.02527	-.01922	.00603	.02254

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High					
Low					

IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	---	---	---	---	---	---
Wavlen	371.030	---	---	---	---	---	---
Avge	9819	---	---	---	---	---	---
SDev	24.28884	---	---	---	---	---	---
%RSD	.2473639	---	---	---	---	---	---
#1	9802	---	---	---	---	---	---
#2	9836	---	---	---	---	---	---

Report: 60102007 Sample Name: CCV1

Operator: GSP

Time: 07/27/00 14:56:35

CDNC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50110	10.040	1.0174	1.0010	1.0022	.52317	10.451
SDev	.00186	.054	.0042	.0009	.0047	.00236	.046
%RSD	.37099	.53833	.40842	.08779	.47330	.45030	.44222
#1	.50241	10.078	1.0203	1.0017	1.0056	.52484	10.483
#2	.49978	10.002	1.0144	1.0004	.99885	.52150	10.418
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.50000	10.000	1.0000	1.0000	1.0000	.50000	10.000
Range	10.000	10.000	10.000	10.000	10.000	10.000	10.000
Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.52688	1.0405	1.0451	.99138	10.374	10.415	9.8053
SDev	.00287	.0042	.0050	.00743	.034	.042	.0432
%RSD	.54423	.40238	.47392	.74894	.33041	.40332	.44019
#1	.52891	1.0434	1.0486	.99663	10.398	10.445	9.8359
#2	.52486	1.0375	1.0416	.98613	10.350	10.385	9.7748
Errors	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass
Value	.50000	1.0000	1.0000	1.0000		10.000	10.000
Range	10.000	10.000	10.000	10.000		10.000	10.000
Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.363	1.0321	1.0215	9.7190	1.0329	1.0340	1.0349
SDev	.040	.0049	.0010	.0582	.0049	.0047	.0051
%RSD	.38994	.47576	.10220	.59853	.47388	.45932	.49438
#1	10.391	1.0355	1.0207	9.7601	1.0364	1.0373	1.0385
#2	10.334	1.0286	1.0222	9.6779	1.0295	1.0306	1.0312
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10.000	1.0000	1.0000	10.000	1.0000	1.0000	1.0000
Range	10.000	10.000	10.000	10.000	10.000	10.000	10.000
Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.96943	1.0415	1.0092	1.0021	1.0225	1.0195	1.0811
SDev	.00503	.0013	.0067	.0047	.0004	.0049	.0032
%RSD	.51899	.12166	.66665	.46789	.03610	.47599	.29701
#1	.96587	1.0424	1.0139	1.0054	1.0222	1.0229	1.0834
#2	.97299	1.0406	1.0044	.99874	1.0228	1.0160	1.0788
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Range	10.000	10.000	10.000	10.000	10.000	10.000	10.000
Elem	2203/1	2203/2	1960/1	1960/2	Li6707		

ppm	ppm	ppm	ppm	ppm	ppm
1.0349	1.0335	1.0453	1.0296	1.0285	
.0133	.0005	.0060	.0047	.0078	
1.2870	.04551	.57703	.45249	.75818	
1.0443	1.0338	1.0496	1.0329	1.0340	
1.0255	1.0331	1.0410	1.0263	1.0230	

NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass
				1.0000
				10.000

Std	1	2	3	4	5	6	7
Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Y	---	---	---	---	---	---	---
len	371.030	---	---	---	---	---	---
9980	---	---	---	---	---	---	---
61.59632	---	---	---	---	---	---	---
.6172273	---	---	---	---	---	---	---
9936	---	---	---	---	---	---	---
10023	---	---	---	---	---	---	---



Method: 60102007 Sample Name: CCB1  
 Date Time: 07/27/00 15:01:39  
 Agent:  
 Conc: CDNC Corr. Factor: 1

Operator: GSP

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00112	.03188	.00217	.00212	.00069	.00043	.01795
SDev	.00006	.00030	.00227	.00103	.00004	.00003	.00108
%RSD	5.0112	.94530	104.36	48.753	6.2869	6.5224	6.0183
#1	.00108	.03210	.00377	.00285	.00066	.00041	.01718
#2	.00116	.03167	.00057	.00139	.00072	.00045	.01871
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.00500	.10000	.00500	.10000	.01000	.00300	.50000
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000
Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00046	.00092	.00101	.00036	.02589	.01257	.00159
SDev	.00026	.00003	.00016	.00007	.00745	.00131	.02243
%RSD	56.812	3.1704	15.562	20.827	28.762	10.444	1414.0
#1	.00028	.00094	.00112	.00030	.03115	.01164	-.01427
#2	.00065	.00090	.00090	.00041	.02062	.01350	.01745
Errors	LC Pass	LC Pass	LC Pass	LC Pass	NOCHECK	LC Pass	LC Pass
High	.00500	.01000	.00500	.01000		.10000	1.0000
Low	-.00500	-.01000	-.00500	-.01000		-.10000	-1.0000
Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm		
Avge	.01419	.00077	.00172	.14242	.00223	.00115	-.00149
SDev	.00315	.00004	.00087	.03694	.00139	.00112	.00204
%RSD	22.189	5.6320	50.885	25.939	62.206	97.662	137.17
#1	.01641	.00074	.00233	.11630	.00322	.00194	-.00004
#2	.01196	.00080	.00110	.16854	.00125	.00036	-.00293
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.50000	.01000	.01000	1.0000	.00500	.00500	.01000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000
Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00524	.00302	.00069	.00107	-.00002	.00125	.00099
SDev	.00372	.00077	.00012	.00009	.00138	.00037	.00023
%RSD	71.074	25.414	16.532	8.1602	6364.6	29.755	22.952
#1	.00787	.00248	.00061	.00113	-.00100	.00098	.00115
#2	.00261	.00356	.00077	.00100	.00095	.00151	.00083
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.05000	.01000	.00500	.00500	.01000	.01000	.02000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000
Elem	2203/1	2203/2	1960/1	1960/2	Li6707		

Units	ppm	ppm	ppm	ppm	ppm
Avge	.00153	.00096	-.00088	-.00179	.00075
SDev	.00431	.00384	.00070	.00341	.00015
%RSD	282.51	399.60	80.202	190.21	19.368

#1	-.00152	.00367	-.00137	.00062	.00065
#2	.00458	-.00175	-.00038	-.00420	.00086

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	LC Pass
High					.05000
Low					-.05000

IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	---	---	---	---	---	---
Avlen	371.030	---	---	---	---	---	---
Avge	9925	---	---	---	---	---	---
SDev	12.96961	---	---	---	---	---	---
%RSD	.1306815	---	---	---	---	---	---
#1	9915	---	---	---	---	---	---
#2	9934	---	---	---	---	---	---

Method: 60102007 Sample Name: CRI

Operator: GSP

Run Time: 07/27/00 15:06:43

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00490	.12398	.00741	.09945	.01060	.00554	1.0751
SDev	.00010	.00026	.00283	.00071	.00004	.00005	.0024
%RSD	2.0916	.20550	38.131	.70959	.39572	.83877	.22044

#1	.00497	.12380	.00541	.09994	.01057	.00551	1.0735
#2	.00483	.12416	Q.00941	.09895	.01063	.00557	1.0768

Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.00500	.10000	.00500	.10000	.01000	.00500	1.0000
Range	50.000	50.000	50.000	50.000	50.000	50.000	50.000

Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00555	.01116	.00652	.00944	.12894	.11460	.94082
SDev	.00004	.00028	.00007	.00021	.00398	.00062	.00064
%RSD	.70321	2.4626	1.0360	2.2728	3.0854	.54412	.06786

#1	.00552	.01097	.00647	.00929	.12612	.11416	.94037
#2	.00558	.01136	.00656	.00960	.13175	.11504	.94128

Errors	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass
Value	.00500	.01000	.00500	.01000		.10000	1.0000
Range	50.000	50.000	50.000	50.000		50.000	50.000

Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.52301	.01096	.01145	.91427	.00712	.00501	.00977
SDev	.00082	.00003	.00001	.01060	.00007	.00153	.00238
%RSD	.15692	.25795	.11194	1.1592	1.0015	30.584	24.343

#1	.52243	.01094	.01146	.92176	.00717	.00393	.00809
#2	.52359	.01098	.01144	.90678	.00707	.00610	.01145

Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.50000	.01000	.01000	1.0000	.00500	.00500	.01000
Range	50.000	50.000	50.000	50.000	50.000	50.000	50.000

Elem	Sb2068	Sn1899	Sr4215	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05341	.00732	.00544	.00560	.00940	.01062	.02263
SDev	.00011	.00227	.00002	.00013	.00030	.00003	.00033
%RSD	.19742	30.966	.42040	2.3934	3.2157	.26884	1.4549

#1	.05334	.00572	.00542	.00550	.00918	.01060	.02239
#2	.05349	Q.00893	.00545	.00569	.00961	.01064	.02286

Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.05000	.00500	.00500	.00500	.01000	.01000	.02000
Range	50.000	50.000	50.000	50.000	50.000	50.000	50.000

Elem	2203/1	2203/2	1960/1	1960/2	Li6707
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Units	ppm	ppm	ppm	ppm	ppm
Avge	.00372	.00566	.00961	.00985	.05118
SDev	.00069	.00196	.00098	.00308	.00004
%RSD	18.535	34.532	10.156	31.256	.07882

#1	.00323	.00428	.00892	.00767	.05121
#2	.00420	.00704	.01030	.01202	.05115

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass
Value					.05000
Range					50.000

IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	---	---	---	---	---	---
Wavlen	371.030	---	---	---	---	---	---
Avge	9956	---	---	---	---	---	---
SDev	25.37436	---	---	---	---	---	---
%RSD	.2548554	---	---	---	---	---	---
#1	9974	---	---	---	---	---	---
#2	9938	---	---	---	---	---	---

60102007 Sample Name: ICSEA  
07/27/00 15:11:47

Operator: GSP

DNC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00016	520.71	.00207	.00502	.00119	.00125	456.28
SDev	.00032	2.24	.00256	.00028	.00003	.00000	1.73
%RSD	199.58	.42934	124.13	5.6178	2.6941	.32581	.37922
#1	.00039	519.13	.00025	.00522	.00116	.00125	455.06
#2	-.00007	522.29	.00388	.00482	.00121	.00124	457.50
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.00000	500.00	.00000	.00000	.00000	.00000	500.00
Range	.01000	100.00	.01000	.20000	.02000	.00600	100.00
Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.00051	.00132	.00076	-.00081	202.00	180.96	-.02678
SDev	.00041	.00033	.00006	.00036	.81	.57	.01584
%RSD	79.586	25.122	7.4706	44.622	.40264	.31691	59.170
#1	-.00022	.00109	.00080	-.00056	201.43	180.56	-.01557
#2	-.00080	.00156	.00072	-.00107	202.58	181.37	-.03798
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass
Value	.00000	.00000	.00000	.00000	200.00		.00000
Range	.01000	.02000	.01000	.02000	40.000		2.0000
Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	561.78	.00927	-.00068	.03611	.00026	.00517	-.00315
SDev	2.46	.00000	.00155	.00494	.00076	.00123	.00037
%RSD	.43749	.01716	226.81	13.675	296.04	23.790	11.585
#1	560.04	.00928	-.00178	.03262	-.00028	.00604	-.00290
#2	563.52	.00927	.00041	.03960	.00080	.00430	-.00341
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	500.00	.00000	.00000	.00000	.00000	.00000	.00000
Range	100.00	.02000	.02000	2.0000	.01000	.01000	.02000
Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.00593	.00416	-.00541	-.00151	.01918	-.00071	.00400
SDev	.00117	.00414	.00002	.00004	.00743	.00023	.00021
%RSD	19.673	99.470	.33315	2.4306	38.746	32.407	5.3716
#1	.00511	.00709	-.00540	-.00148	.02443	-.00055	.00385
#2	.00676	.00124	-.00542	-.00154	.01392	-.00087	.00415
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.00000	.00000	.00000	.00000	.00000	.00000	.00000
Range	.10000	.02000	.01000	.01000	.02000	.02000	.04000
Elem	2203/1	2203/2	1960/1	1960/2	Li6707		

	ppm	ppm	ppm	ppm	ppm
	.01327	.00113	.00444	-.00695	.00023
	.00086	.00141	.00336	.00222	.00003
	6.5212	124.82	75.596	32.026	11.880
	.01388	.00213	.00207	-.00537	.00025
	.01265	.00013	.00682	-.00852	.00021
	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass
					.00000
					.10000

Std	1	2	3	4	5	6	7
Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Y	---	---	---	---	---	---	---
	371.030	---	---	---	---	---	---
	8906	---	---	---	---	---	---
	6.838358	---	---	---	---	---	---
	.0767836	---	---	---	---	---	---
1	8911	---	---	---	---	---	---
2	8901	---	---	---	---	---	---

Method: 60102007 Sample Name: ICSAB  
 Run Time: 07/27/00 15:16:51  
 Element:  
 Mode: CONC Corr. Factor: 1

Operator: GSP

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.55647	535.03	1.0744	1.0709	1.0447	.52078	467.41
SDev	.00249	2.24	.0093	.0078	.0049	.00261	2.73
%RSD	.44828	.41942	.86342	.72870	.47222	.50162	.58306
#1	.55471	533.44	1.0678	1.0653	1.0413	.51893	465.49
#2	.55824	536.61	1.0809	1.0764	1.0482	.52262	469.34
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.50000	510.00	1.0000	1.0000	1.0000	.50000	510.00
Range	.10000	102.00	.20000	.20000	.20000	.10000	102.00
Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.50081	1.0256	1.0452	1.0991	213.49	190.01	14.294
SDev	.00267	.0058	.0067	.0048	1.04	.93	.051
%RSD	.53234	.56251	.64530	.43357	.48821	.49141	.35958
#1	.49893	1.0215	1.0404	1.0958	212.75	189.35	14.258
#2	.50270	1.0297	1.0499	1.1025	214.23	190.67	14.331
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass
Value	.50000	1.0000	1.0000	1.0000	210.00		10.000
Range	.10000	.20000	.20000	.20000	42.000		5.0000
Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm		
Avge	576.96	1.0563	1.0526	12.553	.98110	1.0396	1.0503
SDev	2.81	.0049	.0088	.077	.00688	.0073	.0050
%RSD	.48739	.46262	.83174	.61614	.70126	.70455	.47456
#1	574.98	1.0528	1.0464	12.498	.97624	1.0345	1.0468
#2	578.95	1.0598	1.0587	12.607	.98597	1.0448	1.0538
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	510.00	1.0000	1.0000	10.000	1.0000	1.0000	1.0000
Range	102.00	.20000	.20000	5.0000	.20000	.20000	.20000
Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.0402	1.0749	1.0351	1.0376	1.0556	1.0394	1.0087
SDev	.0077	.0068	.0041	.0060	.0133	.0037	.0072
%RSD	.73621	.63047	.39139	.57863	1.2579	.35153	.71809
#1	1.0347	1.0701	1.0322	1.0334	1.0462	1.0368	1.0036
#2	1.0456	1.0797	1.0380	1.0419	1.0650	1.0420	1.0139
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Range	.20000	.20000	.20000	.20000	.20000	.20000	.20000
Elem	2203/1	2203/2	1960/1	1960/2	Li6707		

Units	ppm	ppm	ppm	ppm	ppm
Avge	1.0678	1.0256	1.0806	1.0352	1.3375
SDev	.0056	.0082	.0095	.0027	.0062
%RSD	.52782	.79642	.88256	.26193	.46322

#1	1.0638	1.0198	1.0739	1.0333	1.3331
#2	1.0718	1.0314	1.0874	1.0371	1.3419

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass
Value					1.0000
Range					.50000

IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	--	--	--	--	--	--
Wavlen	371.030	--	--	--	--	--	--
Avge	8848	--	--	--	--	--	--
SDev	33.48607	--	--	--	--	--	--
%RSD	.3784696	--	--	--	--	--	--
#1	8871	--	--	--	--	--	--
#2	8824	--	--	--	--	--	--



Method: 60102007 Sample Name: CCV1

Operator: GSP

Run Time: 07/27/00 15:21:55

Comment:

Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.50296	10.298	1.0245	1.0001	1.0040	.52799	10.851
SDev	.00019	.047	.0001	.0018	.0002	.00064	.053
%RSD	.03752	.45775	.00960	.17569	.01616	.12042	.48873
#1	.50283	10.265	1.0245	.99887	1.0039	.52754	10.813
#2	.50310	10.332	1.0244	1.0014	1.0041	.52844	10.888
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	.50000	10.000	1.0000	1.0000	1.0000	.50000	10.000
Range	10.000	10.000	10.000	10.000	10.000	10.000	10.000
Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.53313	1.0531	1.0560	.99190	10.573	10.593	9.7978
SDev	.00021	.0006	.0006	.00036	.046	.035	.0017
%RSD	.03861	.05828	.05918	.03576	.43076	.32712	.01695
#1	.53327	1.0535	1.0555	.99215	10.541	10.569	9.7966
#2	.53298	1.0526	1.0564	.99165	10.606	10.618	9.7990
Errors	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass
Value	.50000	1.0000	1.0000	1.0000		10.000	10.000
Range	10.000	10.000	10.000	10.000		10.000	10.000
Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.713	1.0403	1.0301	9.9470	1.0386	1.0481	1.0441
SDev	.068	.0008	.0065	.0296	.0002	.0039	.0004
%RSD	.63927	.07233	.62953	.29720	.02380	.37457	.04155
#1	10.664	1.0398	1.0255	9.9261	1.0384	1.0453	1.0444
#2	10.761	1.0408	1.0346	9.9679	1.0387	1.0508	1.0438
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10.000	1.0000	1.0000	10.000	1.0000	1.0000	1.0000
Range	10.000	10.000	10.000	10.000	10.000	10.000	10.000
Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.96983	1.0533	1.0090	1.0071	1.0337	1.0255	1.0978
SDev	.00666	.0000	.0005	.0015	.0032	.0003	.0030
%RSD	.68655	.00241	.04998	.15118	.31238	.02767	.26884
#1	.96512	1.0533	1.0087	1.0060	1.0314	1.0253	1.0957
#2	.97454	1.0533	1.0094	1.0082	1.0360	1.0257	1.0999
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Range	10.000	10.000	10.000	10.000	10.000	10.000	10.000
Elem	2203/1	2203/2	1960/1	1960/2	L16707		

Units	ppm	ppm	ppm	ppm	ppm
Avg	1.0611	1.0416	1.0629	1.0347	1.0327
SDev	.0021	.0048	.0006	.0004	.0009
%RSD	.19581	.46547	.05171	.03636	.08249

#1	1.0596	1.0382	1.0633	1.0350	1.0321
#2	1.0625	1.0450	1.0625	1.0345	1.0333

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass
Value					1.0000
Range					10.000

IntStd	1	2	3	4	5	6	7
Mode	Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Elem	Y	---	---	---	---	---	---
Wavlen	371.030	---	---	---	---	---	---
Avg	9889	---	---	---	---	---	---
SDev	25.32740	---	---	---	---	---	---
%RSD	.2561124	---	---	---	---	---	---
#1	9871	---	---	---	---	---	---
#2	9907	---	---	---	---	---	---

60102007

Sample Name: CCB1

Operator: GSP

07/27/00 15:26:58

CONC

Corr. Factor: 1

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00045	.07573	.00126	.00333	.00077	.00051	.06120
SDev	.00032	.02364	.00007	.00031	.00008	.00001	.02523
%RSD	71.003	31.222	5.5033	9.2686	9.8716	1.8076	41.229
#1	.00022	.05901	.00121	.00355	.00072	.00050	.04335
#2	.00067	.09245	.00131	.00311	.00083	.00052	.07904
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.00500	.10000	.00500	.10000	.01000	.00300	.50000
Low	-.00500	-.10000	-.00500	-.10000	-.01000	-.00300	-.50000
Elem	Cd2265	Co2286	Cr2677	Cu3247	Fe2714	Fe2599	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00047	.00051	.00140	.00019	.03825	.02988	.00588
SDev	.00005	.00006	.00041	.00023	.00375	.01072	.00102
%RSD	9.6589	11.033	29.181	122.26	9.8087	35.876	17.360
#1	.00043	.00054	.00169	.00003	.03559	.02230	.00660
#2	.00050	.00047	.00111	.00035	.04090	.03746	.00516
Errors	LC Pass	LC Pass	LC Pass	LC Pass	NOCHECK	LC Pass	LC Pass
High	.00500	.01000	.00500	.01000		.10000	1.0000
Low	-.00500	-.01000	-.00500	-.01000		-.10000	-1.0000
Elem	Mg2790	Mn2576	Mo2020	Na3302	Ni2316	Pb2203	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.05877	.00081	.00167	.05258	.00171	.00035	.00007
SDev	.02951	.00003	.00064	.03275	.00019	.00047	.00027
%RSD	50.211	3.0083	38.231	62.294	11.273	133.97	371.59
#1	.03791	.00080	.00212	.07574	.00157	.00002	.00026
#2	.07964	.00083	.00122	.02942	.00184	.00069	.00012
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.50000	.01000	.01000	1.0000	.00500	.00500	.01000
Low	-.50000	-.01000	-.01000	-1.0000	-.00500	-.00500	-.01000
Elem	Sb2068	Sn1899	Sr4215	Ti3349	Tl1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.00494	.00313	.00078	.00102	.00027	.00085	.00102
SDev	.00125	.00060	.00007	.00007	.00310	.00006	.00018
%RSD	25.372	19.251	8.9408	7.1739	1134.0	6.9291	17.492
#1	.00582	.00356	.00073	.00107	.00192	.00089	.00114
#2	.00405	.00271	.00083	.00097	.00246	.00081	.00089
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.05000	.01000	.00500	.00500	.01000	.01000	.02000
Low	-.05000	-.01000	-.00500	-.00500	-.01000	-.01000	-.02000
Elem	2203/1	2203/2	1960/1	1960/2	L16707		

	ppm	ppm	ppm	ppm	ppm
1	-.00054	.00080	.00072	-.00025	.00073
2	.00092	.00025	.00083	.00082	.00000
RSD	172.19	31.084	115.51	328.68	.30887

1	-.00119	.00062	.00013	.00033	.00073
2	.00012	.00097	.00131	-.00083	.00074

Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	LC Pass
1					.05000
2					-.05000

	1	2	3	4	5	6	7
Counts	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED	NOTUSED
Y	---	---	---	---	---	---	---
Mean	371.030	---	---	---	---	---	---
SD	9957	---	---	---	---	---	---
Dev	28.72276	---	---	---	---	---	---
RSD	.2884562	---	---	---	---	---	---
1	9978	---	---	---	---	---	---
2	9937	---	---	---	---	---	---

7/26/00

~~7/26/00 W~~

## **Appendix E**

### **FDEP Letters**



# Department of Environmental Protection

Lawton Chiles  
Governor

Twin Towers Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Virginia E. Wetters  
Secretary

April 27, 1998

Ms. Linda Martin  
Department of the Navy, Southern Division  
Naval Facilities Engineering Command  
2155 Eagle Drive, PO Box 190010  
North Charleston, SC 29419-9010

file: arsenic1.doc

RE: Request for Site-Specific Arsenic Soil Cleanup Levels: Covered Landfill Sites, NAS  
Whiting Field

Dear Ms. Martin:

I have reviewed the request for approval of a site-specific Soil Cleanup Goal for arsenic at the "covered landfill sites" at NAS Whiting Field from Mr. Gerald Walker, ABB Environmental Services, dated April 22, 1998 (received April 22, 1998). Based on the prior presentation to Department Staff and the summary information furnished in the letter and the attached Appendix I, the request is granted to utilize a site-specific Soil Cleanup Goal for arsenic of 4.62 mg/kg at Sites 1, 2, 9, 10, 11, 12, 13, 14, 15 and 16., with the following conditions:

1. The sites may be utilized for activities that involve less than full-time contact with the site. This may include, but is not limited to, a.) parks b.) recreation areas that receive heavy use (such as soccer or baseball fields) or, c.) agricultural sites where farming practices result in moderate site contact (approximately 100 days/year, or less).
2. The Navy must assure adherence to the land use by incorporating the site and conditions in a legally binding Land Use Control agreement.
3. The above Soil Cleanup Goal shall not be utilized at any other site without specific Department approval.

If you have questions or require further clarification, please contact me at (904) 921-4230.

Sincerely,

James H. Cason, P.G.  
Remedial Project Manager

*"Protect, Conserve and Manage Florida's Environment and Natural Resources"*

*Printed on recycled paper.*



# Department of Environmental Protection

Jeb Bush  
Governor

Twin Towers Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

David B. Struhs  
Secretary

April 11, 2001

Mr. James Holland  
NAS Whiting Field  
7151 USS Wasp Street  
Milton, Florida 32570-6159

file: arsenic2.doc

RE: Analysis of Soil for Arsenic at Outlying Landing Fields

Dear Mr. Holland:

I have reviewed the above document dated April 3, 2001 (received April 9, 2001). The document describes soil sampling locations and analytical results for arsenic at four outlying landing fields associated with, but not adjacent to, NAS Whiting Field. Those facilities are Pace Field, Spencer Field, Santa Rosa Field and Harold Field. There are no known contaminated sites at those fields. Utilizing the information furnished in the document and in comparison with similar data from NAS Whiting Field, the Navy has requested a determination that arsenic levels observed at NAS Whiting Field are comparable with those seen at the outlying landing fields and that they are in naturally occurring concentrations.

Based on my review of those data, I have concluded that arsenic levels observed in soils at NAS Whiting Field are within the range of concentrations observed at the outlying fields and that they therefore are in naturally occurring concentrations. This determination may be applied only to arsenic in the soil for sites at NAS Whiting Field for which sufficient data presently exist. Please be aware that this finding does not preclude a future determination of a release of arsenic at any particular site if information and data warrant that conclusion.

If you have questions or need further clarification please contact me at (850) 921-4230.

Sincerely,

James H. Cason, P.G.  
Remedial Project Manager

cc: Mollie Palmer, Office of the Secretary  
Linda Martin, Southern Division, North Charleston  
Amy Twitty, CH2M Hill, Navarre

TJB JJC ESN

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